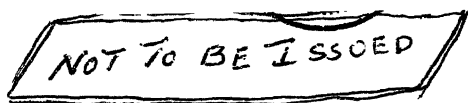


THE AUTHOR

A FORGOTTEN RIVER

A BOOK OF PERUVIAN TRAVEL
AND BOTANICAL NOTES

by
CHRISTOPHER SANDEMAN



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DEDICATION

TO

JOHN HUGH SMYTH-PIGOTT

who has forgotten more about Peru and
its Flora than I have begun to know,
this book is dedicated in old friendship

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A FOREWORD

THIS book of travel notes and botanical jottings is an attempt to make the reader share from day to day the experiences of a three months' journey through a little-known district of a country of exceptional beauty and interest; but it is not for those whose travel literature must be highly seasoned with the spice of perilous adventure. No one tried to kill us, no one even tried to rob us: in fact the only person, during five months spent in Peru, who attempted, to any serious extent, to take advantage of two Gringos' inexperience of South American travel was not a Peruvian; but that is another story. This story is mainly concerned with that important Amazon tributary, the Huallaga River, from its source near the great mining centre of Cerro de Pasco, some 14,000 ft. above sea-level, to the tropical riverside townlet of Yurimaguas, 580 ft. above sea-level, where it becomes navigable by steamer to Iquitos. The following pages also describe the journey from Yurimaguas back to the Pacific coast by the ancient trade-route through the Andes of Maynas—to employ the classical name for the remote Balsapuerto-Moyobamba country in use from Pizarro's to Spruce's day.

Unlike that other great Peruvian tributary of the Amazon, the Ucayali, whose waters, being easier to navigate and forming part of the Pichis route from Lima to Iquitos, are relatively well known, the Huallaga has, to a great extent, ever since two English naval officers, Smyth and Lowe in 1834, and Herndon,

a lieutenant in the American Navy, in 1850, navigated and described its middle course, remained an almost forgotten river. A certain number of travellers are familiar with the Huallaga from its beginnings in the High Andes as far as Huanuco and the short stretch from Yurimaguas to its confluence with the Marañon; but the 400 miles of its middle reaches from Tingo Maria, whence it forces a way by rapids through mountain gorges amid the impenetrable jungle of the Department of Loreto to the Amazonian plains, are still virgin country where travel conditions have hardly altered at all since the great days of the Franciscan Missions and the pioneer expedition of Smyth and Lowe.

The Huallaga with its many rapids and *malos pasos* is always a river to be treated with respect, especially during the rainy season; but the wild beauty and ever-changing incidents of its impetuous course, and later the awe-inspiring grandeur of the great Cordilleras, where we crossed the headwaters of the Amazon at Balsas, do not need the mellowing haze of retrospection to make them stand out for ever as peak-points of any traveller's experiences.

The Author wishes to express his very grateful acknowledgements to Mr. Noel Sandwith of The Herbarium, Royal Botanic Gardens, Kew, for his ungrudging assistance in identifying and naming the plants collected.

INTRODUCTION

AFTER long delay and several postponements the time came, in June 1938, when circumstances at last allowed me to make an expedition upon which I had set my heart many years before, that of traveling to Peru and crossing the Andes by the Yurimaguas—Balsapuerto—Moyobamba—Chachapoyas—Cajamarca route. Being anxious to avoid the well-known Pichis trail with the monotony of many days of river travel on the Ucayali and Amazon and a possible three weeks' delay while waiting for a boat at Iquitos, I decided, as the end of June was a likely time for the river to be in good condition, to reach Yurimaguas by going down the Huallaga by raft, starting from Tingo Maria, a small settlement lying at the headwaters on the right bank of that river not far from its confluence with the Monzon.

The River Huallaga, which rises in the great Central Cordillera near Cerro de Pasco, except for an easterly stretch between Huanuco and Muña and a big westerly bend between Uchiza and Chasuta, flows almost due north—roughly parallel with the Ucayali—to its junction with the Marañon. It has the reputation of being a rather difficult and sometimes dangerous river to navigate, especially during and just after the rainy season, on account of its frequent *malos pasos* and rapids (there are over sixty of these, large and small, between Tingo Maria and Yurimaguas), its many hidden rocks and heaps of drift piled up against submerged trees. As these last are usually swept away

each time the river is in flood, and new obstacles are formed as other forest giants, crashing through erosion of the jungle-covered banks, come to rest and block the old channels, it follows that the navigable course of the river is never constant for more than a few months at a time. In these conditions only experienced local raftsmen or natives with an inborn instinct for as well as the habit of the river can pilot canoes or rafts in safety down the Huallaga.

Apart from these more obvious difficulties of navigation, the river constantly forks, flowing for 400 yds. and more round long narrow islands, as it pursues its serpentine way among the surrounding hills. At these places it is often quite impossible for the inexperienced to know whether the Mother River, as the main river is termed, or the branch is the course to be followed. A *balsa* (raft) is emphatically to be preferred to a canoe for going down the Huallaga. Its size and construction make for comfort, and its great flexibility enables it to withstand more easily the shock of collision with rocks or motion of whirlpools, and it must always be remembered that the famous Cayumba rapid, between Uchiza and Juanjui, where so many fatal accidents have occurred, is very dangerous for canoes even during the dry season.

It is difficult for those whose experience of travel is limited to Europe or places of standardized comfort for tourists to realize the remoteness of and immense difficulty of access to many districts of Peru, districts as large as or larger than many of the smaller European countries. In fact it is hardly an exaggeration, if an over-statement at all, to say that as a country Peru has no geographical sanction. That great backbone

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of a continent, the vast mountain ranges of the Western, Central, and Eastern Cordilleras, forms a tremendous natural barrier between the Pacific ports, the towns of Lima and Arequipa on the narrow strip of coastal desert with its natural wealth of oil and guano deposits, and cotton growing in those districts where irrigation is possible, and that other tropical world of the great almost unknown regions of Loreto, Amazonas, and Madre de Dios, whose rivers and situation on the eastern side of the Andes make them geographically a continuation of Brazil. That Paris is not France is a truism, and in many countries the life and thought of a capital tend to become sharply differentiated from the country as a whole; but of nowhere can it more truly be said than of Peru, that to know the capital well confers no diploma of knowledge where the rest of the country is concerned. There are vast tracts of frontier country to the north, east, and south where, even if he could be limited to one alternative, no Peruvian could do more than hazard a guess if he were in his own country, in Ecuador, in Brazil, in Colombia, or in Bolivia. Frontiers here are often little more than contentious shadowy assumptions lost in the green twilight of the all-enveloping jungle.

The policy of road-making, a legacy from President Leguía's régime, to which the present administration is giving vigorous effect, is helping Lima to establish contact with places, now within a day's run by motor-car, which, not many years ago, could only be reached from the capital after a week's arduous travel by horse or mule. Aviation, too, is playing an important role here as in other countries, and Lima on the Pacific

coast can now be reached in comfort by aeroplane from Moyobamba on the eastern side of the Andes in five or six hours instead of in the five or six weeks of strenuous toil, which had to be allowed for the journey not many years ago. But an irregular or even a regular aeroplane service only touches the fringe of the problem. Useful as aviation unquestionably is for those to whom time is precious or for those who find flying over a country without any sort or kind of contact with its inhabitants an interesting mode of travel, it is powerless to solve the vital question of the transport of merchandise in bulk.

A complaint often voiced by the inhabitants of Peru's eastern provinces is that '*Lima se desinteresa completamente para nosotros y nuestras problemas*'—'Lima doesn't take the smallest interest in us and our problems'. Up to a point there may be legitimate grounds for complaint about Lima's indifference. A railway may be an impossibility and a road to link up the tropical river provinces with the towns of the Cordilleras and Lima an uneconomic dream for many years to come, even admitting that its engineering and upkeep ever came within the range of practical politics; but it must be remembered that, apart from recent aviation developments, the Pichis and Moyobamba trails are the only two habitually used routes across the Peruvian Andes, and there would appear to be no good reason why, until the ideal of road or railway materializes, the Peruvian Government should not devote the relatively small sum that would be required for the work, to the building and upkeep of a few simple rest-houses, where wayfarers could spend the night under shelter, re-build the bridge that used to

cross the dangerous ford of Puma-yacu or at least replace the chain which helped travellers to cross, destroyed like the bridge by a tremendous rise of the river, and keep the trail reasonably clear of fallen trees. This from the point of view of the disgruntled native, forced to use these jungle and mountain tracks when business obliges him to leave home. From the point of view of the traveller for whom the unfamiliar and unknown have a fascination and to whom a salad of adventure seasoned with the garlic of discomfort is no deterrent, the thought that he is travelling in a manner and over a route which have remained for centuries unchanged gives zest and excitement to the journey, especially if in moments of fatigue and exasperation he can take refuge in that robust and sane philosophy with which Aeneas cheered his wavering followers in the hour of doubt, '*Olim meminisse juvabit*'—'One day it will delight you to recall these things'.

An important point, which the traveller in the interior of Peru must always remember, is the extreme difficulty, often impossibility, of obtaining not luxuries, but even those simple commodities which in European countries are considered by the humblest the common necessities of everyday life. Tea, jam, chocolate, biscuits, butter, milk can practically never be purchased. Even in Moyobamba, a town of some 7,000 inhabitants, bread is sometimes unobtainable, and in both Juanjui and Saposoa (a provincial capital) there was a match famine, which we were informed would last until the problematic arrival of a new consignment from Lima. It is wise to avoid purchasing tinned foods in places where

shops cannot readily obtain fresh supplies, especially as the goods offered for sale are usually those least well suited to the tropics, such as tinned salmon, lobster or herrings. In the Montaña it is frequently possible to buy cheaply eggs, chickens, yuca (a very usual substitute for bread), bananas, rice, beans, coffee, sugar, and fruit, all of which are produced locally. In the Cordilleras on the other hand where life is harder and soil and climate less prodigal, away from the few towns the poverty and scarcity of food is such that an attempt to buy even eggs or chickens usually meets with the instant response '*No hay*'—'There are none', a statement which is sometimes promptly modified if an offer is made which cupidity is unable to resist!

Apart from the usual camp equipment, including of course a mosquito net, mackintosh sheets and a canvas bath, the traveller in the interior of Peru must go provided with cooking and eating utensils, soap, electric torches, collapsible canvas buckets, candles, matches, tools, nails, insect-powder, a good coil of rope, felt-covered army flasks, one or two balls of strong string, a Primus stove, which will be found invaluable, especially in wet weather, for making tea or coffee quickly, a small tropical medicine chest or anyhow certain remedies such as castor oil, quinine, bismuth, permanganate of potash, iodine, &c., and, of course, some roller bandages, sterilized gauze and adhesive plaster. A supply of cigarettes, tobacco, and cheap trinkets are also extremely useful as mediums of exchange in the more remote districts or as gifts for establishing or cementing good relations *en route*.

With regard to provisions for a journey opinions,

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like tastes, will naturally vary considerably; but tea, tinned butter and milk, oil for frying, biscuits, chocolate, rice, beans, coffee, bully beef, jam, salt, and brandy should always be included, also plenty of tins of sardines, for it is customary as a form of gratuity at the end of the day to present each Indian or muleteer accompanying an expedition with a tin of sardines, rice for his evening meal and a glass of *pisco*, a cheap local spirit, and it will be found that this with the bestowal of a few cigarettes keeps them in a good humour and ready to perform small services other than those for which they are actually engaged. Live chickens, like the victims in the Conciergerie awaiting massacre, can easily be transported by raft or carried on the backs of mules or Indians and killed as required to make a welcome change in a necessarily somewhat monotonous diet, while at times it will be found that an excellent plan is to cook an extra chicken at night ready for the following evening's meal, so that at the end of a long day's march much time can be saved in preparing supper.

With regard to clothes for an expedition of the kind indicated opinions again will inevitably differ; but it must be borne in mind that there will be great variations of climate and temperature and therefore the lightest clothing should be taken for navigating the tropical rivers and walking in the Montaña, and heavier garments for protection against the cold of high altitudes. Corduroy trousers for changing into at the end of a day's march have the advantage of being light, warm and durable, and I would never travel without them. Personally I found shorts the most comfortable kit for rough walking in the jungle,

rather loosely fitting riding breeches with canvas leggings and the strongest nailed Alpine boots for riding and walking in the Cordilleras, and of course, woollen 'pullovers', a waterproof wind-jacket as a protection against rain and cold, and a pair of light canvas shoes for changing into in the evenings. For a hat the wide-brimmed, locally-made straw hat cannot be improved upon, while the universally worn *poncho* of strong hand-woven cloth can give any other form of overcoat a long start and win hands down.

A complete change of clothing at the end of the day is always advisable, and this simple precaution combined with a little attention to diet, such as never to drink unboiled water or eat the locally dried fly-blown meat or over-ripe fruit will contribute largely to the preservation of good health. With regard to malaria nothing can be done where it is prevalent except to take preventive doses of quinine, sleep under a mosquito net and forget about it until such time as you may be unpleasantly reminded that your precautions have been in vain. But an attack of malaria is, like amoebic dysentery, one of the risks incident to travel in Peru, though happily in some places, including the Huallaga River, it is not common and is of a mild form that yields quickly to regular doses of quinoplasmina, a new preparation of quinine used for the treatment of malaria. With regard to *verrugas*, leprosy, and other nightmare maladies, I feel that it is difficult to better the advice contained in the letter of a witty friend with years of experience of travel in South America. 'Do not', he wrote on the eve of my departure in reply to a letter asking him in which district of the Rimac valley the *verrugas* malady was prevalent,—'do not

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worry yourself about obscure tropical diseases. *Le Bon Dieu*, I am convinced, is a good, blue-blooded Tory and only afflicts the defenceless native!

Travellers to South America are sometimes advised to take their own English saddles with them. This is not only unnecessary, but mistaken advice, anyhow so far as Peru is concerned. The local saddle, *montura de cajon* (box-saddle), because it places most of the weight on the ribs of a horse or mule is the ideal one for local conditions, while its shape makes for far greater comfort and security for the rider when going up and down rocky tracks, more like steep, rough-hewn staircases than roads. A big man with large feet may not improbably find the heavy half-boot shaped Peruvian leather or metal stirrup uncomfortably small and the stirrup-leathers not long enough. He will, therefore, be well advised to provide his own, though these too should be of the approved local pattern, for not only do they give protection in heavy rain, but they also act as buffers against the rocky sides of narrow trails and should an animal fall, the rider's foot comes away far more readily than from an English hunting stirrup.

While on the subject of saddles and pack-animals the question of the transport of stores and equipment calls for some consideration. On a raft or even in a large-sized canoe almost any type of box or case can be used, but on an expedition where everything has to be carried by mule or on the backs of Indians the weight and shape of a load become matters of first importance. The traveller should remember that two packages of medium size are always greatly to be preferred to one large box, and that for pack-animals

a load consisting of more than one box or case must be balanced by another or others of equal weight. Before starting it is well to put all packages on the scales in order to know their individual and total approximate weights. Large sacks or bags made of tough waterproof material will probably be found best for carrying camp beds, spare clothes, &c.; and all boxes containing stores and equipment should always have waterproof protection against heavy tropical rain.

A colloquial knowledge of Spanish is not only desirable, but almost a necessity for the traveller in the interior of Peru. Without it, not only will he be deprived of those contacts which are half the joy and interest of travel, but he will probably also require the services of a professional guide, which will greatly increase the cost of an expedition and possibly inflict on him the society of an individual completely ignorant of the more subtle and interesting aspects of the people and country where he is travelling, one whose society but for his ignorance of Spanish he would most probably wish to avoid. And in the intimacy of travel off the beaten track to be with congenial companions is the first condition of that mental and spiritual comfort without which a sunrise is shorn of its glory and a sunset of its peace.

'The horror of that moment I shall never, *never* forget', declared the immortal White King, like many others before and after him. 'You *will*,' replied the White Queen, 'you will, though, unless you make a memorandum of it.' Although there were, happily, no moments of horror to record, there were many of enchantment and interest, and daily notes before Time

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blunted the edge of first impressions seemed the most satisfactory form of recording the incidents of a journey, which not only few Europeans, but even few Peruvians have troubled to make, not because, anyhow during the dry season, great hardship or risks are involved, but probably because, apart from the time required, a certain amount of daily fatigue and discomfort have to be faced, and, of course, illness or a broken limb five or six days' march from the nearest medical aid could be attended with serious consequences, though, taking all in all, the actual risks involved are negligible compared with, for example, those of crossing on foot from St. George's Hospital to Hamilton Place or motoring on a Sunday evening on the London-Brighton road.

DIARY OF THE EXPEDITION

Monday, June 20th, 1938

IN true Peruvian fashion the camionette hired to do the first stage of the journey from Lima to Huanuco, ordered for 9 a.m., arrived about an hour late, a fact for which the half-negro driver and his coloured A.D.C. in the best Spanish tradition did not even deign to offer an explanation. That Time is made for slaves is a point of view shared equally by the children and step-children of Aragon and Castille, and luckily my nine years' residence in the south of Spain has trained me in the philosophy of *mañana*!

Started off about 10.30, sitting in the midst of piled-up kit looking rather as if I were moving house and feeling very despondent at the prospect of doing the journey alone, owing to Michael O'Halloran, who had planned going with me, having had to fall out at the eleventh hour. For the past three weeks—in fact ever since our Chanchamayo expedition—he has been feeling ill, and, although at the moment slightly on the upward grade, we talked things over and decided that it would be wiser for him to return to England and not risk a possible break-down in the wilds.

We left Lima by the Ancon road, a ribbon of tarmac among the sand and stones of the coastal desert, passing on our right an old Inca burial ground, covering many acres of sand, a macabre Gehenna littered with skulls, bones, human hair, and sordid rags of mummy wrappings from rifled graves. After about half an hour we turned North-east up the Canta Valley,

the road running through a narrow strip of irrigated cotton fields, the only green in that desert of sand and dust, which starting in Southern Ecuador, where the influence of the Humboldt Current ceases¹ to make itself felt, runs right through Peru and more than half-way down the Chilean coast, going near Ica and south of Payta as far as 100 miles inland. As is usual in Lima in June up to midday, we left the City of Kings in a cold sea-fog; but by the time we reached the cactus zone in the Canta Valley, the air was as clear as spring water and the mountains bathed in fierce sunlight with tall rigid *Cereus* standing like dark sentinels against the tawny hill-sides, the only plant life to be seen except the irrigated lemon-flowered cotton-fields, and *Schinus Molle* (Anacardiaceae) with graceful, drooping branches, clusters of rose-coloured seeds and shiny Robinia-like foliage. This tree, the 'false pepper-tree' as we used to call it in Spain, on account of its pepper-like scent, is very drought-resisting and prospered exceedingly in my garden there. We lunched in the village of Santa Rosa de Quibe where the local hostel was on the primitive side—small, upturned packing-cases doing duty for chairs; but the fried eggs and rice were acceptable and the coffee up to an exacting standard so far as heat and strength were concerned.

From Santa Rosa onwards the road was little more than a rough track with typical Andean flowers growing on either side: calceolarias, gentian-blue *Salvia*

¹ Although travellers going south from the Canal usually speak of the coastal desert as beginning in Southern Ecuador, it would really be more correct to say that it *begins* where the influence of the Humboldt Current, which is a northerly branch of the Pacific antarctic drift, first makes itself felt, near Coquimbo in Central Chile, and *ends* in Southern Ecuador where the Current takes a westerly direction.

Cruikshanksii with characteristically strongly scented leaves, lupins, the widely distributed scarlet-flowered Composite, *Mutisia viciaefolia*,¹ another attractive small magenta-coloured Composite² with grey-green foliage, periwinkle-blue *Browallia peduncularis* (Solanaceae), a handsome shrub with violet flowers, *Symbolanthus calygonus* (Gentianaceae), a carmine-pink shrubby Barnadesia (Compositae) with very sharp, hard thorns, *Gardoquia elliptica*, a Labiate with flame-coloured, Salvia-like flowers, and a very lovely trailing leguminous plant, *Indigofera tephrosioides*, cascading down the road-sides, a woody stem with grey-green foliage and flame-coloured flowers, to mention only a few. We arrived at Canta (10,000 ft.), the usual derelict-looking Peruvian Sierra townlet in a superb mountain setting, about 4 p.m. and proceeded at once to the quarters of the Civil Guards, to register our arrival as required by regulations. This constant control of cars entering and leaving a place—even when only passing through—previous experience had taught me is one of the minor exasperations of motoring in Peru, though there must be some good reason for it not obvious to travellers. On this occasion proceedings were leavened by an unexpected dash of humour, the driver of our camionette, which had halted in the square opposite the Civil Guards' quarters, being ordered to reverse the position of his vehicle on account of 'traffic regulations', the only 'traffic' at the

¹ I found *M. viciaefolia* on the western side of the Andes only. On the eastern side it is replaced by *M. acuminata* with deep orange flowers. There is also a variety of the former species, *M. viciaefolia* var. *hirsuta*.

² *Onoseris odorata*. Another species, *Onoseris integrifolia*, forms great mats in full exposure in the Rimac valley. The latter is a very handsome species with bright magenta ray-florets, orange disk-florets and leaves white-tomentose beneath.

time being a grave-looking Serrano in a high straw hat and cinnamon-coloured *poncho* mounted on a small donkey, while the only other signs of life in the plaza were a mangy tortoiseshell cat sunning itself on the cobbles, two Indian women in bright pink and orange skirts and gay shawls gossiping on a seat, and a cow with a knife-edge backbone repulsing the efforts of a starved-looking calf to extract milk from a dried-up udder. Formalities completed, and without delay, thanks to a talisman in the form of a personal letter from the Peruvian Minister in London addressed to his country's authorities, the two possible hostels were inspected. Of these the second seemed the less impossible, with a hard but clean bed, a hostess anxious to give of her somewhat restricted best, and a demand for a large jug of hot water for washing not causing consternation and commotion. Dinner over—and the cook, if charged, would only have been dismissed with a caution—a drink and a half-hour's gossip with our hostess and her son made the little upstairs room with its bare boards, hard bed, small table with enamel jug and basin, and wooden shutters doing duty for windows seem infinitely desirable. *Canta* keeps early hours. The street is silent and deserted, in the distance a gramophone plays a Spanish dance of suppressed rhythmic violence, a fighting cock deluded by the moonlight challenges the world and is promptly answered by a pugnacious rival, the mountain air is full of crystal refreshment and the elevation not too great for peaceful sleep . . . for peaceful sleep . . . for peaceful . . . for peace- . . . And so to bed!

Tuesday, June 21st

Left Canta before 7 a.m.—less than half an hour after time as the result of my admonitions yesterday—and started off on the last stage of the long climb up to the Vinda Pass and Cerro de Pasco. The road mounted rapidly and the view was magnificent, the mountain tops crowned with golden light and Canta still sleeping in the dim valley—but what a road! Magnificently engineered, its surface seemed expressly designed to destroy the springs of any car. However, one could only take refuge in possible health compensations and hope that one gained on the liver-swings what one lost on the nerve-roundabouts, and nothing could mar the glorious mountain prospects or destroy the beauty of their sun-bathed slopes ablaze with sheets of yellow calceolarias and great drifts of rosy salvias. On and on . . . jolt, rattle, bump, bang . . . up and up until, after another arid, severe-looking cactus zone, typical Andine Alpines appeared at about 14,000 ft. growing in short turf, strange-looking drab little cushion plants, pale lilac Nototriches, many Compositae, including *Werneria caespitosa*, a *Liabum*, like a stalkless dandelion, two *Perezia* species an inch high, one buff and one white, a yellow gentian¹ 4 in. high, and a minute flower of the same genus² bravely trying to be scarlet. I also collected *Lupinus microphyllus* (Leguminosae), a dwarf, prostrate species with blue flowers. At last, at over 15,000 ft., the Viuda came into sight, a rather pyramid-shaped mountain, from certain angles reminiscent of the Matterhorn,

¹ *Gentiana incurva*.² *Gentiana carneo-rubra*.

with many little jade-green lakes dotted with water-fowl in the vicinity and a grand panoramic view of the distant Cordillera Blanca with its glaciers and snow-streaked giants.

Before reaching the long, wind-swept plateau, which has to be traversed previous to the brief run down to Cerro de Pasco, the road winds through the so-called Rock Forest, piled-up masses of ancient boulders, the giant playthings of superhuman hands, fantastic caprices of immemorial stone, iron grey battlements of rock, towers, walls, and bastions wrought by Nature in her most extravagant mood. The light was happily good for taking photographs and constant halts for this purpose and for collecting botanical specimens delayed our progress so that it was nearly 3 p.m. before we arrived at Cerro de Pasco. This rich silver-mining centre with its population of 25,000 has something of the inhuman quality which repels at Oroya, where character and individuality appear to have been sacrificed on the altar of efficiency and organization, although here at least the country-side has not been turned into a 'blasted heath' by the poisonous fumes of great smelting chimneys, which have brought blight and desolation to the mountains for miles around the town of Oroya. However, there are notable compensations both for employees and shareholders in a mine which, it is estimated, has produced £100,000,000 of silver in a period of 140 years, and although some men cannot live by bread alone, it is probable that many men do, and quite certain that all must have bread to live at all.

A brief hour for luncheon and we started off again a little before four o'clock on the four to five hours' run

down to Huanuco. A short distance from Cerro de Pasco we made our first acquaintance with the Huallaga, that almost unknown Amazon tributary, on whose turbulent waters we hope to reach Yurimaguas. The Huallaga starts its high adventures as a sparkling trickle in a wayside ditch on the right of the descending road, followed by a brief period of placid calm as the road follows the right bank of a peaceful brook thickly fringed by overshadowing trees, next a swift stream racing past ruined mills with a litter of derelict mill-stones of the old Colonial days, then, as the road sinks abruptly, a formidable mountain torrent cutting a ruthless way through the rocks and boulders of a terrific gorge, then broadening out into a swift purposeful river, again, a roaring torrent attacking and overcoming every obstacle in its path, as though conscious of its great Atlantic destiny, and then again a shallow, hurrying river, on the left bank of which the road descends to Huanuco.

The last two hours run through Ambo and what I had been told was not the least lovely part of the river valley had, unfortunately, to be done after dark, and we were glad, as the lights of the camionette were entirely inadequate and the narrow winding road, with big drops into the river and few places where two vehicles could pass, not one which a motorist would do at night for choice, when we found ourselves on a level high-road bounded by high walls with houses at frequent intervals. Dusty and tired after a fourteen-hour day, during which starting from about 10,000 ft. we had gone up to nearly 16,000 ft. and descended again to 5,600 ft., we reached the town of Huanuco just before 9 p.m.

Wednesday, June 22nd

Huanuco, the starting-point of so many early botanical expeditions (twice visited by the great Spanish botanists, Pavon and Ruiz, during their ten years (1778-88) collecting with their French colleague Dombey, in Chile and Peru), turns out to be very much what I expected, a dusty, rather out-at-elbows little provincial capital situated in a prosperous agricultural district, with two or three bad hotels, some shops dedicated to the cheap and nasty, a rather pompous plaza with some derelict flower-beds and a cathedral, tawdry and dilapidated within, though with an architecturally interesting exterior of which many low domes are the chief feature, giving it more the appearance of a mosque than a Christian church. The present town, which is situated about forty miles away from the site of old Huanuco, or Guanuco as it was called, of pre-Conquest days, was founded, like Lima and Trujillo, by Francisco Pizarro, probably about 1540. The climate is particularly pleasant and deserves its fair reputation, while its situation in a broad open valley, through which the Huallaga flows, surrounded by mountains high enough to please the eye, but not on a large enough scale to be overwhelming, has everything to recommend it. Open drains flow down the middle of most of the cobbled streets, in which the inhabitants can be seen washing meat and vegetables or taking water with a fine contempt for elementary questions of hygiene, which only immunity could give.

The hotel where we are staying is built in good

traditional Spanish fashion in two stories round an open, almost square, *patio* or courtyard, partly covered in by crossed bamboo canes over which that popular climber, Bellissima (*Antigonon leptopus*) with its racemes of bright carmine pink flowers, climbs and hangs in graceful festoons. This importation from Mexico and Central America, a polygonaceous plant with a tuberous root, easily grown from seed, has, like the Hibiscus, spread all through the gardens and patios of Peru, though, unlike these two sturdy invaders, the common white Richardia ('arum lily') or *Hedychium coronarium* from the East Indies, I have not seen it naturalized in any locality I have visited. So much for the *pintoresco*, literally the picturesque, actually a word often used for describing combined squalor and discomfort! The hotel itself has one long room leading to the street at one end and to the kitchen at the other, which serves as dining-room, sitting-room, smoking-room, and bar. Naturally it does not contain a single chair that has even a bowing acquaintance with comfort; but a concession has been made to *Kultur* in the form of a wireless which during meals grinds out the strident music acceptable to Spanish ears. No one listens, guests talk hard against each other, waiters stamp through the room banging down on the tables dishes, knives, forks, and crockery, a party of young men, the gilded youth—probably not very gilded—of Huanuco, rattle a dice-box with frenzied zest, a dog barks continuously in the courtyard and every one devours three meat courses with relish. My bedroom, on the first floor, has no orthodox window, but double 'French window' doors at one end lead on to the veranda passage, so by moving

the bed to that end of the room and leaving the doors open night and day there is sufficient light and air, and the balustrade running round the veranda, upon which the sun strikes fiercely for hours on end, is particularly handy for drying quickly blotting-paper from the flower-presses. *Kultur* has also decreed a bath-room, but it smells so atrociously that I dare not use it, which fills me with regrets, for it is probably my farewell to plumbing for nearly three months. However, jugs of hot water and a large bottle of eau-de-Cologne eased the situation, and my bed is surprisingly comfortable—it is also a probable farewell to sheets!—and the tin of insect-powder remains unopened. Huanuco has its points.

Thursday, June 23rd

Apart from purchases that still have to be made, special boxes for carrying stores, cooking utensils, &c., are being constructed by a Huanuco carpenter and are not yet ready, also the lorry engaged to take us and our equipment down to Tingo Maria (our 'port of embarkation' on the Huallaga) will be in dock until to-morrow evening, so, as Saturday is an up-traffic day on this one-way road, we shall not be able to leave Huanuco before Sunday. Accordingly I arrange with the camionette that brought us here, which has delayed its departure until to-morrow on the chance of a return fare to Lima, to go for a long day's expedition to that paradise for botanists, Carpis, as the high mountain region is called, where the new road begins its long descent to Tingo Maria. Unlike

the comparatively bare hill-sides round Huanuco, Carpis, owing to its constant heavy rainfall, produced by the juncture at this spot of cold and warm air-currents coming from opposite sides of the divide, is thickly clad with tropical rain-forest vegetation, and Dr. Weberbauer, the eminent German botanist, whose plant geography *Die Pflanzenwelt der Peruanischen Anden* is an indispensable guide to the study of the flora of Peru, told me before leaving Lima, that although Carpis has been very thoroughly combed by a series of botanical expeditions I should on no account miss seeing it. To-day is also an up-traffic day, but the production of my talisman letter resulted in a special permit to go against the traffic, and by starting at 5 a.m. we could make fairly certain of arriving at our destination before the advent of lorries from Tingo Maria travelling against us.

It was still dark when we left Huanuco. On the outskirts of the town a chain stretched across the road obliged us to knock up the sleeping guardian of the highway, who stumbled out of his house bleary-eyed and buttoning up his trousers, to inspect our pass and remove the barrier. Just outside the town a bridge crosses the Huallaga and the road then follows its right bank between small farms and through a cactus zone for some miles until crossing another bridge to the left bank it begins to mount rapidly, leaving the river which here continues to flow almost due east before turning north again near Muña.

We stopped at the straggling village of Acomayo for breakfast, where a young turkey cock trying absurd conclusions with a tethered game-cock, each

sparring-bout ending after much noise in its ignominious retreat, provided some diversion while a coloured slattern dawdled over the preparation of fried eggs and coffee. During breakfast it began to rain and unluckily, with brief spells of tentative sunshine, continued nearly all day. After Acomayo the road rises rapidly until tree-ferns, Cavendishias, scandent and shrubby Begonias, pink Tacsonias and velvety leaved Calceolarias, scarlet Bomareas and trees thick with epiphytes, Tillandsias, Pourretias and other Bromeliads, thickets of bamboo, dangling lianes, and trees standing shoulder to shoulder on the rot of a thousand vanished generations proclaim the tropical rain-forest. Among the four or five Fuchsias I collected was a very lovely species,¹ the only one I saw which alas! fell to pieces in the press, growing through a tangle of shrubs in a place difficult of access, with racemes of a dozen or more tubes about 3 in. long, the colour of a La France rose. Another plant which eluded capture had bright pink bells, looking from a distance not unlike a larger and more open Lapageria, but I could not distinguish its form very clearly or even determine if it were a scandent plant growing through a tall shrub or the flowers of the shrub itself. The chauffeur, fired by my enthusiasm, made valiant efforts to reach it: but after removing his boots to get a better foothold and arriving within a few yards of the prize, found that the position would have to be taken by a long flank movement and a rear attack. Unluckily it was late in the afternoon when I saw it and time was lacking, but I could go to the exact spot again without difficulty and shall return

¹ Either *Fuchsia apetala* or a very closely allied undescribed species.

there the next time I find myself in Huanuco, for I never saw the plant again or anything like it.

We halted at the spot where the road begins to run down to Tingo Maria and followed for about an hour a rough, irregular track which wanders along the hillside, collecting a good many specimens including a handsome terrestrial orchid about 3 ft. high with orange and mahogany red blossoms (*Oncidium aureum*), and stood hardly daring to breathe, watching a number of humming-birds of a dazzling iridescent green sipping nectar from *Cleome Figueriae* (Capparidaceae), a tall shrub with pale yellow and violet blossoms and long protruding red stamens. Luckily it cleared sufficiently to enable me to take two or three photographs, though the light was never really good and one could only guess at the superb view when a clear day reveals range after range of jungle-clad mountains stretching on and on in a descending scale to the tropical rivers, to-day clad with fantasies of cloud grouping and re-grouping round the dark hill-tops that pierced the mists, which wandered aimlessly to and fro or struggled laboriously upwards from the sodden valleys. After eating a picnic luncheon in the shelter of the camionette, I sent it back by the way by which we had come with instructions to wait about five miles along the road, where I walked down to join it again accompanied by the driver's A.D.C. collecting specimens¹ on the way until both cases

¹ Plants collected here included a bright red, shrubby *Viola*, *V. arguta*, the lovely *Bomarea purpurea* with great trusses of vivid red flowers, *Tovaria pendula*, a shrubby tree with small, inconspicuous greenish-coloured flowers, but interesting for being in one a family, genus and species, a very beautiful Liliaceous plant *Eccremis coarctata* with a woody rhizome and Iris-like foliage, from which rise stems about 2 ft. high with small open flowers of a lovely Tradescantia shade of blue, *Fuchsia decussata* (Oenotheraceae) and *Gaultheria brachybotris* (Ericaceae).

were filled to overflowing. We arrived back in Huanuco in bright sunshine to find that not a drop of rain had fallen there during the day. The cost of the twelve hours expedition was the exact equivalent of two pounds, thirty-five shillings for the hire of the camionette and five shillings tip for the coon and his aide. Travel in Peru has a pleasant reverse of the medal!

Friday, June 24th

St. John's day and a national fiesta; but one is only made aware of it here by the shops being closed and by the absence of lorry traffic in the town. How different from Provence *en fête* with the traditional bonfires and gaiety of the vigil! Even in the short time I have spent in Peru I have constantly been impressed by the profound melancholy of the race, not Spanish austerity, but an Indian pessimism and softness of fibre springing perhaps from the consciousness of defeat. Much exaggerated nonsense has been written about so-called Inca art and Inca civilization (the use of the word Inca to denote a race instead of the rulers of a race is in itself an absurdity), for the fact that a social order, apparently secure, with the tradition of centuries behind it, could crumble so quickly and completely before a few hundreds of invaders fighting thousands of miles from their country under conditions of incredible hardship and difficulty, gives the measure of the inherent weakness of the civilization and its rulers.

Peru takes its pleasures sadly. In Spain a cockfight, never a spectacle to be recommended to the squeamish,

is at least redeemed by the gaiety of the spectators. There bets change hands, quick volleys of chaff are fired by witty tongues, the ready laugh and pointed repartee make a holiday atmosphere—in fact the audience and not the play's the thing. In Lima the Coliseo with its rows of stolid spectators, staring in apathetic silence at two birds with enormous spurs trying to kill each other, is merely sordid and depressing. The Indian national dancing I have seen is little more than a dreary, rhythmic shuffle of archaic interest, while their music has little to recommend it to those who are not charmed by the barbarous beating of drums, wailing of flutes, or primitive scratching of strings. That the race had great gifts for social organization of a Termite brand cannot be disputed, nor can it be denied that their gold-work¹ and pottery within limitations is fine in form and execution and the strikingly modelled heads sometimes of rare beauty, in spite of a too frequent leaning to the monstrous and the grotesque, while that their textiles are often of exquisite colour and design is also unquestionably true. But gush is not even half-brother to appreciation. Lady Politique Would-Bee was 'all for Musique, save i' the forenoons' and, o'ercome by counterpoint and Chiarascuro, would dedicate 'an hour or two, for Paynting': your modern, not to be out-distanced in superb preciousness, swoons in ecstasy at the sight of a fish or a bird out of drawing. The archaic is the mode, to find beauty in a totem is to be on the crest of the wave of fashion, so Cellini is a back

¹ To keep a sense of perspective about Inca gold-work one need only compare the finest examples of their craft with the late Fourth Century Roman silver-work, the Casket of Projecta or Treasure of the Esquiline Hill, with its exquisite mingling of Christian and Pagan symbols, in the Early Christian Room at the British Museum.

number and children's line drawings or their barbarous equivalents whet the up-to-date aesthetic appetite. But, as Wilde so truly wrote, 'It is dangerous to be too modern, for you are apt to become old-fashioned quite suddenly'. It *is*—very dangerous, so Cellini for me!

Spent all the morning arranging in presses the flowers collected yesterday and wrote letters during the afternoon, including two for England. When I took these to the post office and asked the young woman there (apparently a border-line case) how much the stamps would cost, she answered brightly, 'How much do you want to pay?' I replied, 'Nothing at all', so matters were at a deadlock until a colleague from behind the counter came to her rescue and explained that there was an official tariff for foreign correspondence! It rained hard during the night and the sky looked overcast and threatening towards evening. If we have heavy rain during the next twenty-four hours the greasy, precipitous road down to Tingo Maria with an unknown chauffeur will not be exactly a joy-ride on Sunday.

Saturday, June 25th

A dull day with storms in the offing and clouds on the hills, but only a few drops of rain fell. Spent a busy morning getting the stores, &c., sorted out and packed and looking for a car to take us down to Tingo Maria to-morrow, the lorry that had contracted for the job being still in dock with, so I am now told, a broken spring! After some difficulty a price was

agreed upon with the owner of a battered-looking Hudson. It is too small to take the three large cases, so they will have to be transported by one of the lorries doing their return journey on Monday. The delay is of no consequence, for we shall not need their contents, as we shall have to spend four or five days at Tingo Maria while the raft that will take us down the Huallaga is being built and *Bogas* (raftsmen) engaged to pilot it.

Devoted most of the afternoon to twelfth-hour shopping, complicated by the problem of trying to discover where to make my modest purchases, always a difficulty in a country where a boot-shop may sell butter or a fruiterer furs. My requirements were of a strictly utilitarian nature, blue and brown wool and darning-needles, an extra stick of shaving-soap, a pot of jam and biscuits to supplement hotel life at Tingo Maria, a large bottle of eau-de-Cologne (an inexpensive and good Peruvian brand), a writing-pad and envelopes, a ball of string, and a cheap hand-mirror. In one of the shops I had a long conversation with the German proprietor, who seemed delighted to meet some one with whom he could converse in his native tongue. I gathered that he was economically marooned in Huanuco, making a small income that enabled him to live, but seeing no possibility of ever being able to return to Germany. As he truly said, when you have been away twenty years even the most familiar faces have become shadows and, although he sometimes longed to renew contact with his family and the friends of early days, he realized that what he would find after long absence would be as strange to him as what he would take back would be to those who had known

him in his youth. I think he belonged nowhere and knew it, for he spoke with an embittered indifference as empty of hope as it was of resignation.

I shall be glad to leave Huanuco to-morrow, for twenty-four hours are more than enough for the attractions of the town and at this season the mountains in the immediate neighbourhood have very little to offer of botanical interest. Also the din made by the hotel wireless in the only living-room from 7 p.m. onwards is quite intolerable. Most Peruvians, like Spaniards, are apparently not only insensible to noise, but enjoy and are more or less intoxicated by it. I remember being forcibly struck by this once in Seville when going to see a friend, whose third child had been born forty-eight hours previously, and finding the mother sitting up in bed holding a small reception with half a dozen friends and family sitting round smoking, talking, and laughing, and during the hour I was there another half-dozen dropped in to inspect the new arrival.

Just before going to bed I let fall the newly purchased hand-mirror, which cracked right across. Although all reason and common sense tell me that my fortunes or the luck of the expedition cannot possibly be affected one way or another by this trivial happening, somewhere at the bottom of my mind a sediment of superstition lingers, insufficient to cause me any serious concern, but enough to make me wish that the mirror were intact. And we talk condescendingly about witch-doctors and the inhibitions of savages!

Sunday, June 26th

Greatly to my surprise the Hudson arrived only fifteen minutes late. Stowing away the luggage to the best advantage took some time, but when all was snug, to my consternation and dismay (remembering the long, severe climb from Acomayo up to Carpis) the car had to be pushed some distance by the driver's A.D.C. and four lads of the village before it would start for the Control Office, where the driver had to report, having suddenly remembered in true Peruvian fashion that he had neglected to see that his papers were stamped and in order. After nearly an hour's fretful wait at the hotel the car returned, this time progressing in orthodox fashion. The driver seemed quite confident—without any apparent grounds—in the capabilities of his engine and brushed aside with airy optimism my openly expressed doubts of our chances of arriving at Tingo Maria that evening.

The run from Huanuco up to Carpis proved to be anything but a joy-ride. Rain, which continued steadily all day, began to fall just before reaching Acomayo and the Hudson stuck now and then on the greasy upward grade and had to be allowed to run backwards two or three yards as a preliminary to starting the engine again, not a pleasant experience, when for most of the way one side of the road was a precipitous drop. Happily the brakes appeared to be reliable and the chauffeur, an experienced driver, though probably an inexperienced mechanic, knew his car. Like most of his countrymen, he seemed incapable of calling attention to any object of interest we passed

without removing one—sometimes both—hands from the steering-wheel and gesticulating wildly, while looking anywhere but at the road ahead. His only reply to my admonitions was to tell me ‘Not to worry’! However, I found that an effective method of bringing him to heel was to tell him the moment he opened his mouth to speak that I was not interested in anything he had to say and to remind him that his function was to drive the car and not to talk. These drastic methods appeared to be successful, so I applied them ruthlessly until we reached the top of the divide (the driver’s optimism was justified—the Hudson got there!) where we lunched in the car in the midst of the dripping forest, with no sound to break the silence but the steady patter of rain, while an impenetrable veil of mist shrouded the magnificent mountain prospect below us. Sitting in comfort in the car I thought of the note made by the great Italian botanist and traveller, Raimondi, when he made an expedition from Huanuco to Tingo Maria in March 1857—‘at that time there was not even a mule track, so we had to do the whole journey on foot through the forest during the rains, which did not allow us a moment’s rest’. Truly modern travel demands men of less heroic stature!

About one-third of the way down to Tingo Maria we met a lorry coming up the valley, rather to our surprise, for it was not an up-traffic day. The driver signalled to us to stop and warned us to proceed no further because a bad *derrumbe* (landslide), caused by recent heavy rains, had destroyed a stretch of the road, and made it impossible for cars to reach Tingo Maria for two or three days or possibly longer. Query: ‘Can a broken mirror cause a landslide?’ However,

there were only two possible alternatives, to return ignominiously to Huanuco or continue on our way and, after investigation, decide on a course of action. The second alternative, now that we had come so far, seemed the better. As we drew nearer to the scene of the mishap a lorry drawn up by the road-side repeated the same tale of woe, and the owners of two or three little thatched dwellings came out with kindly intent and warned us to go no further. We drove on to within a short half-mile of the landslide, stopped the car at one of the few places where it was possible to turn, and walked on down the valley. A sharp curve of the road, just beyond a modest wayside shrine where the pious traveller raises his hat in passing with a petition for protection from the dangers of the highway, brought us to the scene of the disaster. The *derrumbe*, which had occurred the day before, was so complete that about 50 yds. of a difficult turn of the road had fallen down a steep drop into the valley below and, although a gang of navvies and road engineers had been rushed up from Tingo Maria and had already started tentative work, it was obvious, even to a lay eye, that some days must elapse before motor traffic could pass, for it was not a question of clearing an old road, but of making a new one. The heavy rain of the past four weeks, at a season when normally the country should have been drying up, had so saturated the loose, spongy ground that another bad landslide looked anything but improbable, for stones, earth, and small boulders kept falling from above and rolling down into the valley below, adding greatly to the difficulties and dangers of the navvies working to repair the damage.

After some conversation with a friendly engineer, who was returning to Tingo Maria that night and promised to try and arrange for a lorry to come up to-morrow evening, into which we and our baggage could trans-ship after crossing the landslide on foot, we returned to the waiting Hudson, prepared to cope with the next problem, that of finding a place at Carpiscillo, as I learnt the district is called, where the night could be spent under shelter. The most likely-looking place, a large *hacienda* where cocaine is extracted (the hill-sides here are covered with plantations of the Coca shrub¹), well situated in the valley below was, unhappily, inaccessible from our side of the *derrumbe*; but a small house on the road-side, half of it still in course of construction, suggested possibilities. After a brief parley with the owners, simple, pleasant-mannered folk, I was given a lofty room, lit by a large hole high up in the wall, which might one day become the window of an upper story, if the building were ever completed! The room was entirely devoid of furniture, but heaps of coca leaves were drying on the hard mud floor. These were removed, the floor swept and garnished, my camp-bed installed, an old packing-case brought to do duty for a table, and a string stretched across one corner for hanging clothes—in fact a home from home! After an ample

¹ *Erythroxylum Coca*, the 'divine plant' of the Incas, belongs to Erythroxylaceae, a genus comprising about a hundred species of small trees and shrubs. *E. Coca* grows up to an elevation of 6,000 ft. and, when well-cultivated in a moist atmosphere and a soil rich in humus, remains vigorous for several years. The leaves are bright green, acuminate and opaque, the flowers are small and inconspicuous, borne in clusters on short stalks with a yellowish white corolla. The first harvest of the young plants, which is really more in the nature of trimming, is gathered at the end of the second year's growth. When the plants reach maturity there are three harvests a year, of which the first is the most abundant. In cultivation the plants are allowed to reach a height of 6-7 ft., but if left to themselves they grow twice as high.

DIARY OF THE EXPEDITION

supper of fried eggs, rice, and potatoes (all excellent), washed down by a large cup of coffee, and cheered by the spectacle of an elusive hen being enticed for capture and slaughter for to-morrow's midday meal, I turned in and, protected by my mosquito net, enjoyed seven hours of undisturbed sleep. Travel in Peru may be many things, but it is emphatically not banal!

Monday, June 27th

After heavy rain storms during the night and early morning the clouds lifted and the sun appeared. I walked down to the landslide again and found about fifty men working on it, and the foreman told me that it might be open for traffic by the end of the week provided there was no fresh fall. The men working there had made a narrow track across the debris, so, going carefully, there should be no difficulty in crossing on foot with our hand luggage.

In the early afternoon I walked up the road for about three miles and collected some specimens, including an attractive pink *Bejaria*, here a shrubby tree 8-12 ft. high (the Andine azalea, an ericaceous plant and very like an azalea in appearance with viscous flowers and leaves), a lovely *Melastomad*, a *Tibouchina*, of which there were many tall shrubs in full flower covered with their showy royal purple blossoms, in size and form superficially not unlike a Christmas rose, and most attractive of all to a gardener's eye *Godoya obovata* (Ochnaceae), a tree with brilliant buttercup-yellow flowers and acuminate,

coriaceous foliage, standing out dazzlingly among its more sober fellows.

In the evening, after putting the flowers I had collected into the press, I packed my suit-case and camp-bed and waited hopefully outside the house for the advent of the lorry from Huanuco with the large boxes, trusting that news of the landslide would not prevent it from starting. About 6 p.m. it came lumbering down the road with a freight of peons and their womenfolk, all plain and most of them coloured. We succeeded in stopping it, getting the luggage put on board, stowed ourselves away as best we could among the coons and their belongings, and went down to the *derrumbe*. Here I was obliged to undergo what I always try to avoid at all costs, separation from the bulk of my luggage. But there was no means of moving the stuff that night, so I crossed the landslide in the dark with the aid of an electric torch (happily by then very few stones were coming down) with the light hand luggage, after the lorry-driver had been instructed either to trans-ship my belongings at the first opportunity, or, if he waited there, to bring them all down to Tingo Maria as soon as the road was open for traffic.

On the other side we found that our engineer friend of last night, true to his word, had chartered a small camionette, into which I packed myself with four or five other stranded travellers, and after some discussion and a few drinks at an improvised canteen for the road-workers we started off in the dark. The road here is very steeply graded, and was badly cut up by heavy lorry traffic ploughing up the rain-sodden surface. Several times we had to pull up to fill deep

holes and ruts with large stones, once we were bogged for twenty minutes with mud over the axles, and several times we had to stop and remove small boulders which blocked our way, brought down from above by minor landslides. Once or twice the camionette was hit with a resounding bang by falling stones, but no damage was done, and after reaching the River Monzon a level road runs straight through the jungle, which brought us at last about 9 p.m. tired and hungry to Tingo Maria, the end of the first stage of the Odyssey.

Tuesday, June 28th

Tingo Maria, formerly known as Juana del Rio, was founded in the year 1830 by a group of settlers coming from the town of Pachiza lower down the river. It still consists merely of a collection of primitive houses, built of bamboo and thatch on piles, a gimcrack church, with a corrugated iron roof, two or three hostels, and a few general stores, on the right bank of the Huallaga a short distance below where the river becomes navigable for rafts or canoes.

The local Ritz, where I am staying, is situated only a few yards from the river's bank in the midst of a large banana grove, with mango, papaya-trees, and a small plantation of pineapples in its immediate vicinity. It is only a large bungalow erected on piles about 6 ft. above the ground, solidly thatched, with walls of split bamboo, which is superior to any wood for resisting damp and the ravages of insects. A wide veranda, which runs all round three sides of the building, arranged with chairs and a few small tables,

serves as sitting-room and dining-room and there is an open space in the middle between the two wings of the bungalow where wooden tables, chairs, and benches are also placed. Another bungalow a few yards away from the main building is used as a kitchen, and there is also an annexe, a kind of *tambo* or thatch on poles with a floor raised above the ground, where hammocks can be slung, clothes dried in wet weather, papaya fruit ripened, and carpenter's jobs executed. Plumbing and bath-rooms are naturally non-existent, for not only do the graces and luxuries of life not come into the scheme of things at Tingo Maria, but conditions, which would cause a house at home to be condemned at sight by local authorities, are here accepted as a matter of course. This is not to say that there are not many compensations. Apart from the beauty of the river, the peace of this corner of the jungle country and the immense floral wealth of the surrounding forest, the hotel has an easy, friendly atmosphere, in which it is impossible not to feel immediately at home. The Peruvian road-engineers, who reside or come here for their meals, are well-mannered and unpretentious, like most of their fellow-countrymen of Spanish descent, and anxious to help the Gringo with information and advice. And our host with his long, malaria-ravaged face and finely chiselled features, not unlike one of the figures in El Greco's *Burial of the Conde de Orgaz*, does all that he can within the limited means at his disposal to make me comfortable.

One wall of my bedroom is also the wall of the store-room, and giant cockroaches, especially after dark, swarm through the inch-wide space between the

split bamboo canes, of which the walls are made, and run to and fro with energetic inconsequence. I pepper them with Keating's, more as an indoor sport than with any hope of ridding my room of the pests, which would probably defeat the efforts of twenty maids sweeping for half a year, with their twenty classical mops! However, as there are no fleas or bugs I can take a few cockroaches in my stride, so to speak, and the corpses can be conveniently disposed of between the chinks of the floor, where they fall on the backs of five or six fat hogs that sleep placidly on the ground beneath my room: the pigs don't smell, make no noise beyond an occasional satisfied grunt, mild in comparison with my snores, and are entirely satisfactory neighbours, more so than a fretful child in the room on the other side, which has constantly to be extracted from a hammock during the night by its grandmother, a picturesque old crone, whom Ribera would have liked to paint, who shares the room with it and the child's mother, and appears to have an unerring instinct for its exigencies.

As the day was fine, after very heavy rain during the night, I had contemplated going up to the *derrumbe* by a lorry that had to make the journey, partly to find out if anything was being done about the luggage, but chiefly in order to see that bit of country by daylight and take some photographs; but when I heard that the lorry would be packed with 'coloured trash' I decided not to go. It was a lucky decision, for during the late afternoon we learnt that not many miles out of Tingo Maria, going along a perfectly safe, straight bit of road above the Huallaga, the lorry—entirely owing to the driver's gross carelessness in talking to

the man beside him instead of watching the road—hit a rock, crashed down the 50 ft. drop, and fell into the river with more than half the passengers killed or severely injured. Motor transport may have added to the amenities, but it has certainly increased the perils of travel in Peru!

The day ended with another contretemps. The lights of the hotel are all extinguished at 10.30. I was unaware that the veranda at the rear part of the house was being repaired and, feeling my way back to my room in the dark, I had the unpleasant sensation of suddenly stepping into space. Luckily 'space' was only a 6-ft. drop, but unluckily I fell with all my not inconsiderable weight on the second joint of the thumb of my left hand. It was horribly painful and I thought at first that the joint was broken or dislocated. I was soon able to reassure myself on that point, but the pain allowed me no sleep that night. Query: Is the broken mirror responsible? On second thoughts, as I escaped the major disaster of the overturned lorry, it may have brought good luck. This clears the air, for a 'wash-out' is obviously the only sensible answer—henceforth I shall be insensible to the power for good or ill of a broken looking-glass.

Wednesday, June 29th

Another shock, but this time a very pleasant one. In the early morning, not yet dressed or shaved, I was sitting on my bed massaging the damaged thumb under hot water when the door opened and Michael, who, I knew, had arranged to sail for England yesterday,

suddenly appeared. For a few seconds I thought it must be one of the Peruvian engineers with an extraordinary resemblance to him and could only stare questioningly until he asked cheerfully: 'Well, aren't you pleased to see me?' During the week after I left, his health had improved so rapidly as the result of the treatment they gave him at the American hospital at Callao that he decided to cancel his passage at the eleventh hour and follow on post-haste to join me for the Huallaga expedition. Thanks to the landslide which delayed us, he was able to catch us up, for he could not telegraph from Lima to Huanuco, not knowing where I was staying, and telephonic communications had broken down between Huanuco and Tingo Maria. He had a pretty trying time getting here, handicapped by not speaking much Spanish and having to trans-ship himself and his luggage at the *derrumbe* last night. On his way down here he passed the scene of yesterday's disaster and found them carrying away the dead bodies, some of them horribly smashed up, which had not been allowed to be moved until the police had finished their investigations. He tells me that five persons were killed and over a dozen injured, most of them seriously.

We talked things over and decided, although the raft will probably be ready Thursday evening, not to embark before Saturday or Sunday, in order to give my damaged thumb a little more time to get into working order again. I wish that, like Raimondi, I could find a local Indian versed in the traditional herb lore of his people, a jungle Aesculapius, who would know what remedy to apply. Raimondi tells how he arrived at Tingo Maria in the spring of 1857

so crippled by rheumatism in one knee that he was hardly able to stand. An Indian completely cured him in twenty-four hours by constant applications of hot poultices of the leaves of *Tabernaemontana samanbo*, a tropical species of Apocynaceae, first cousin of the Allamanda, Nerium (Oleander) and our native Vinca (Periwinkle). And why not? The employment of herbs is the basis of nearly all medicine and in the country districts of France the use of local remedies by a highly intelligent rural population has the pragmatic sanction of centuries. In the Rimac valley I constantly heard it stated, but had no means of ascertaining whether the statement was inspired by prejudice or knowledge, that any one who contracted the much dreaded *verrugas* malady (over 40 per cent. cases end fatally) had a far better chance of recovery if treated by local remedies than by having recourse to the more up-to-date scientific methods in use at Lima. A Peruvian doctor, whom I met at Tamboraque, told me that the malady is very localized and is conveyed by a mosquito that only flies by night, and that there is an unproven, though by no means improbable, theory that the germ exists on a cactus, for the species is always found in localities where people contract the disease. He also told me how one of his patients developed symptoms of *verrugas* about a fortnight before the birth of her child: the child was born apparently healthy, but showed symptoms of infection two weeks later and died within five days: the mother ultimately recovered. The malady is confined to Peru and only to clearly defined districts there. Inca pottery centuries old shows Indians suffering from it, with the unmistakable bleeding

warts, which give the disease its name.' A curious fact is that only patients who develop these warts recover—probably they are Nature's way of eliminating the poison: those who do not develop them die, usually within a month, the symptoms resembling those of death from pernicious anaemia.

After torrential rain all the morning, the sky cleared with tropical abruptness in the early afternoon, and flights of noisy parakeets, flying high above the tree-tops at sunset, gave promise, so the locals say, of permanent improvement in the weather.

The chief *Bogas*, one of the two raftsmen engaged to pilot us as far as Uchiza, came to assure us that we should do much better to go down the Huallaga by canoe. This sudden concern for our welfare clearly indicates some unknown *dessous des cartes*, so we did not discuss the matter, but just told him to get on with the job.

Thursday, June 30th

Devoted most of the morning to labelling the plants collected at Carpis, nearly all of which have dried quickly and well, which is satisfactory, for I shall be able to pack and send them to Lima before starting off down the river.

We lunched on the veranda and were amused by the antics and importunities of the two hotel parrots, large green birds with hard, unblinking eyes that fly from one building to the other, whose unique pre-occupation appears to be food. One is known as 'Florita' and the other calls to it at intervals with a drawn-out and loving intonation—'Flor-eeeeta!' But

its cries are not inspired by interest or affection, but only by the wish to display a trite talent. A lecherous little snigger and a fair, if rather husky, imitation of a crowing cock are their only other accomplishments. They climb by the aid of their vicious beaks up and down the poles which support the veranda, waddle cross-toed on to the tables and fix with steady, appraising stare any titbit they covet, sidling up to, prepared to snatch it from the unwary. Sometimes they allow a tentative caress, when made tolerant by the prospect of a choice morsel of fruit. They are not attractive characters, emphatically a case of fine feathers not making fine birds; but perhaps being constantly teased by hotel visitors has made them lose what little faith they may once have had in human nature.

After luncheon we strolled down to the riverside to inspect our raft, which is nearly completed. It is about 24 ft. long and 12 ft. broad, built of seventeen poles of the light porous wood of the balsa tree (*Ochroma Lagopus*) which is always used for the purpose. These poles are bound and held together by three lots of cross-poles, inserted in deep notches lashed together and kept in place by lianes, which are tougher, stronger and better suited than any rope to the brief life of a raft. The poles at the stern end are left of irregular length, some under the water, others standing out above, better to withstand the shock of possible collisions. In the middle of the raft a platform is built of bamboo canes, resting on stakes with sharpened points driven into the soft, spongy balsa wood, about 2 ft. 6 in. above the river level, where luggage can be stowed and passengers sit. Except in bad weather it should be a very comfortable form of travel. We

decided to start on Saturday morning, for although my thumb is still very weak, and rather painful, it is likely to be out of action for some days, nothing much to worry about, although it is a nuisance starting off on an expedition of this kind with my left hand more or less incapacitated.

Friday, July 1st

Another fine day, so the weather has not belied the fair promise of the auspicious parakeets! Walked with Michael to inspect the new hotel which is being built about half a mile up the river in the hope that Tingo Maria may become a tourist centre. Like the new hotels at Cuzco, it is being put up in time to accommodate the visitors, who, it is expected, will flock to Peru for the Pan-American Congress to be held in Lima this autumn.

Possibly Government pressure may push the work forward, but at the moment it looks rather as if—like the last Paris Exhibition—everything may be ready by closing-time. The hotel is pleasantly situated in a clearing in the jungle close to the Huallaga with little or no escape for the eye, though its surroundings have a heavy, languorous beauty of their own, that breathless over-ripe beauty of the tropics, where everything has the quality of excess and Man is made aware at every turn by Nature's violent exuberance that unremitting sweat of the brow is the price of survival, while the climate melts the marrow of the backbone and the ease with which a minimum standard of living can be achieved makes effort of any kind seem futile.

Peru, in spite of its good climate and magnificent scenery, labours under many disadvantages as a land for tourists. For the average European traveller it is on the wrong side of the continent: the number of people with means or time to devote at least four months on end to travel is necessarily restricted, while those with the time and means are mostly of an age when comfort has become a first consideration. For Americans, especially since the development of aviation, the problem does not present these difficulties, anyhow not to the same extent. But for the tourists of a nation that has given plumbing (*sehr gross geschrieben*) a front seat in Olympus Peru has obvious drawbacks. Apart from avoiding October–May, the season of rains in the Montaña, there is another factor, which the would-be traveller on the eastern side of the Andes must take into consideration. The high mountain ranges that have to be crossed (the Oroya railway *en route* for Chanchamayo goes up to 15,600 ft., the road crossing the Viuda Pass is roughly 14,000 ft.) by travellers visiting the interior of the country are not to be recommended for weak hearts or high blood pressure: even young people of normal health and physique not infrequently suffer badly from *soroche* (mountain sickness) with severe headache and dislocation of the nervous system, especially after making too rapid descents by car from high altitudes, although as a rule the body quickly readjusts itself when back at the lower levels. A visit to Lima and Arequipa entails none of these risks or drawbacks, and these two towns, with possibly Cuzco for those able to face the 14,000 ft. climb to get there, will probably continue to provide the grim females, who sit in their bedrooms

at the Hotel Bolivar, in Lima, with familiars in the form of typewriters, with sufficient copy for hammering out their fly-blown impressions of a country they have peered at for three or four weeks from motor car or railway train. Peru either fascinates or repels—perhaps its appeal is always more to the head than to the heart, for the country has but few attractions to offer the *average* foreign tourist, accustomed to highly organized lightning tours. That is why attempts to popularize places like Chanchamayo or Tingo Maria will probably be doomed to failure. One could almost wish it so. Every day, as Progress captures yet another stronghold of remoteness and standardized Vulgarity brings up its reserves, the vacated position becomes a 'resort' where Bluebird tea-shops, golf, jazz, cinemas, cocktail bars, *pêches Melba*, and an official hostess combine to destroy whatever once gave a place its local colour and individual character. Comfort, like peace, can be too dearly bought. A young friend, an enthusiastic aviator, once told me that he looked forward to the time when we should spend Friday to Monday in Tibet, not realizing that Tibet organized for week-enders would not be worth a visit. While awaiting the day when space becomes our playground and the spheres night refuges for pilgrims to the Milky Way, is it too much to hope that Peru may continue to remain a haven of peace for the naturalist, the botanist, the world-weary, and the traveller who loves the refreshment of solitude?

In the evening we walked up the Huallaga Valley in the dusk up the new road, a broad highway running along the foot of densely wooded hills, fringed with plantations of banana and papaya trees, and

enjoyed the lovely vistas through clearings of the little rapids, verdure-clad boulders, and dancing waters of the river upon which we shall embark to-morrow.

On arriving back at the hotel, we found the cheery Dutch manager of a local *hacienda* waiting at the hotel with two Americans who wanted to make our acquaintance. They are two of a party of four friends, naturalists, who are out here collecting fish, insects, and small mammals; they also are starting down the Huallaga, by canoe, to-morrow. We had drinks together, exchanged names and experiences, and discovered that they are the party to whom, if we had not taken a strong line, our raftsmen would have sold our raft (of course, at a handsome profit) when they, with disinterested regard for our welfare, assured us that we should be better advised to go down the river by canoe! They are staying at the *hacienda* of the Dutchman's 'boss' and we shall be more or less travelling companions on the way down to Yurimaguas.

Turned in early, but Friday is the road engineers' pay-day, so sleep was impossible until after midnight owing to the relentless grinding out by the hotel gramophone of jazz and Spanish dance music, to the accompaniment of the noise of spurious friendships engendered by beer and cemented by *pisco*. However, every one was gay and presumably happy—anyhow until to-morrow morning—especially the heroes whose friends had to carry them off and put them to bed. A mild 'binge' once a week must help to leaven life for those whose work keeps them at Tingo Maria for months on end.

DIARY OF THE EXPEDITION

Saturday, July 2nd

We left Tingo Maria with regrets about 9 a.m. After so much preparation, the start seemed rather a mild affair. The 'once-aboard-the-lugger' touch was conspicuously absent. A few kind Peruvian friends came down to the riverside to wish us good luck, we took our places among boxes and bags on the little platform, the raftsmen untied the liane which moored the raft, gave a push with their paddles, and the *Saucy Sara* (for so we had christened the raft after an attractive young friend with a bold eye and ready retort) was drifting down the current. Notwithstanding an absence of the spectacular or dramatic, there was something inspiring in the thought that it would be possible to travel by water some thousands of miles without a break across a continent from this remote spot at the headwaters of an Amazon tributary, and that the trickle we saw in a ditch by the roadside at Cerro de Pasco has here become a navigable part of the flowing road to the Atlantic.

Our two *Bogas* are young, muscular, and active, the chief one more than half a negro, with the constant flash of strong white teeth and the easy good humour of his race, his second-in-command smaller-boned, with a profile that might belong to the gipsy quarter of Seville or Granada and the Peruvian Indian's unsmiling mouth and melancholy eyes. They perch on the edge of the front of the raft half in and half out of the water, kneeling, crouching, sitting, standing, using their prehensile toes with such address that an absence of tail appears to be an oversight of Nature.

With the grace of trained athletes and the unconscious balance of monkeys, they maintain themselves with ease in positions which the average European would find it hard to adopt even for a few seconds, piloting the raft with their rather heavy 4-ft. long paddles with a skill compounded of science and instinct through the river's most difficult passages. And an instinct for the vagaries of the Huallaga, *un rio muy bravo* (a very wild river), as I often heard it called, is a good half of your first-class *Bogas'* equipment for his job, for without it science alone would be incapable of gauging the strength and direction of currents, the position and depth of submerged rocks and trees with piled-up drift, upon which a canoe could be wrecked or a raft entangled, the places too shallow to pass, or of knowing how far across the river a raft must be steered to allow the stream to carry it back safely past obstacles lower down on the other side without hitting them, for, especially in its upper reaches, the navigable channel of the Huallaga shifts from bank to bank with frequent rapids and serpentine bends. Even so, owing to a trifling miscalculation, we crashed into and stuck on a pile of drift in the middle of a small rapid. The force of the current swung the raft round, and we heard the ominous sound of straining, cracking wood: but our resourceful *Bogas* saw at once what to do, and with great skill and agility quickly cut away with their *machetes* an outside pole of the raft, which they were able to salvage, and after three or four minutes successfully disentangled us from what might have been an unpleasant and slightly dangerous situation.

A short distance down the river we saw a group of natives poison-fishing with *barbasco* in a small, shallow,

right-bank tributary of the Huallaga. Unfortunately, the current of the main river was too strong at that point to allow us to stop and moor the raft and watch the process. Inability to stop at will is the main drawback of travel by *balsa*. Poison-fishing is not a complicated process. The milky juice of the roots of the Cube tree (*Lonchocarpus Nicou*, a tall, evergreen, leguminous shrub), obtained by beating and macerating the roots into a pulp, is poured into streams or pools after a dam of bamboo canes has been built across the river to prevent the poisoned fish from floating away downstream. The alkaloid properties of this juice asphyxiate any fish in the vicinity, which rise to the surface and float belly upwards and are collected in baskets by the shouting wading fishermen, who can enter the water here up to their waists without fear of those two pests of South American tropical rivers, the *piranha* and the *canero*. I am told that, although *barbasco*¹ does not affect either the taste of the poisoned fish or its suitability for human food, it accelerates decomposition and that therefore what is not eaten must be smoked or salted without delay. *Barbasco*, owing to its high rotenone content (a white crystalline compound insoluble in water), has been largely experimented with lately as a basis for rat poisons and insecticides,² apparently with satisfactory results, for harvesting and drying the roots for export to Lima and elsewhere via Yurimaguas and Iquitos

¹About £40,000 of *barbasco* was exported from Peru in 1937, of which France was the largest importer, with Great Britain second, and the United States third.

² Cf. Dr. R. Le G. Worsley of the East African Research Station at Amani: 'My usual basis for considering a plant as a possible source of insecticides is a report that the natives use it as a fish poison, and it is astonishing how very many plants are claimed to be effective as such.'

is an increasing local industry. Our American friends of last night turned up the little tributary to watch and photograph the noisy fishing party. They had passed us earlier in a canoe, rather overladen and low in the water, being paddled downstream by a ruffianly-looking boatman, complete with yellow cur—and a harsh-featured squaw, who might not unfairly be described as a female of repellent aspect remotely connected with navigation! Later they passed us a second time (a canoe always travels faster than a *balsa*), and in about an hour's time we overtook them again stuck on a shoal in the middle of the river, all in the water up to their thighs, pushing, pulling, and making every effort to move the overladen canoe. The strength of the current made it impossible for us to stop, let alone help them. Happily, they were in no danger, though as we rounded the next river-bend we could see that they were still in the same place, apparently unable to make the canoe budge.

We landed about 5 p.m. on the left bank and camped on a pleasant little stony beach a few feet above the river-level. Three factors have always to be taken into consideration when choosing a site for a camp on the Huallaga: first, a place where the current is not too strong so that a raft can be safely moored; secondly, if there is no *tambo* in the vicinity, a plentiful growth of *caña brava* (*Gynerium sagittatum*) or banana leaves, preferably the former, for thatching a makeshift shelter; and, thirdly, a dry spot sufficiently above the river-level to ensure that a sudden rise of a river due to heavy rains upstream will not flood a camp during the night. On this occasion no *tambo* was available, so the *Bogas* quickly knocked up a rough temporary

shelter in the classical Montaña fashion by cutting poles and making two large tripods to which they bound cross-poles with lianes, resting long branches of *caña brava* against the back and on the top. While they were cooking supper, Michael put up our camp-beds and mosquito nets side by side under the shelter (my incapacitated left hand allowed me, alas! to be only a spectator of his very efficient Boy-Scout activities) and, with mackintosh sheets over the ends of our beds to protect us from the terrifically heavy dew, our sleeping arrangements on a fine night could not have been bettered. The *Bogas* slept on the raft, and we turned in immediately after supper and quickly fell asleep to a musical accompaniment of running water and the chirruping of myriads of crickets, well pleased with our first day of river travel.

Sunday, July 3rd

We embarked soon after daybreak, the surrounding hills half veiled by banks of drifting cloud, the air melodious with the notes of unfamiliar birds, flights of noisy parrots screeching in the tree-tops, and the dew-soaked jungle and golden breathlessness of a tropical sunrise giving promise of another 'scorcher'. It was strange to reflect, looking at the high range of densely wooded hills opposite the place where we slept, that their crests which have witnessed the ruthless battle and extinction of a thousand generations of plant life, a battle still waged without respite by night and day as the weaker fall and add their bodies to the immemorial rot of vanished centuries,

that these same hills, not far removed from the river highway, have been for ever inviolate from the foot of man. Even Indians do not penetrate the rank fastness of this inhospitable jungle-country, where only a few little hardly-won clearings and ephemeral patches of cultivation, at rare intervals on the river banks, make the dominion of the primeval forest seem all the more absolute. For that reason a capsized raft or canoe can easily be fraught with great peril, for even if either bank were reached in safety, as could quite easily happen with even a moderate swimmer, any attempt to fight a way through the jungle could only end in disaster for the strongest. The only chance of salvation would be to wait close to the river's edge in the expectation that before many hours a passing *balsa* or canoe might be able to assist the marooned traveller. With these thoughts in our minds, we were relieved to see the canoe of the American party appearing round the upstream bend of the river just before we embarked, they and their collection of specimens none the worse for yesterday's adventure, though with their faith in their pilot and his squaw somewhat shattered.

During the morning a similar mishap overtook us. As the result of a disagreement between the chief *Bogas* and his henchman, we went on a wrong course in a place where the river forked and stuck on a shallow. Aided by Michael—my damaged hand only allowing me the humiliation of sitting immobile as an idol and watching proceedings—the *Bogas*, pushing and pulling, succeeded in getting the raft afloat again. Luckily, there was no other obstacle in the course we had taken to prevent us a little lower down from

rejoining the 'mother river'. Both *Bogas* have the keen, unblinking stare of kestrels and can detect from a distance birds and monkeys in the tree-tops, which I, with my long eyesight, can hardly see even when their exact position is pointed out to me. The chief raftsman, in particular, is a true son of the jungle, who recognizes immediately and is able to imitate with uncanny accuracy the varied cries and notes of beasts and birds. During the afternoon he brought a young otter (we saw many of them during the day) swimming out from the bank after us by imitating its mother's call. Michael basely took advantage of its confidence to have a shot at it with his revolver, which, however, left it none the worse for the experience.

Navigation was much less difficult to-day, the river rather wider with fewer *malos pasos* and some unbroken stretches of placid water, which enabled our pilot to remove his carmine pink shorts and much-mended shirt of many colours—patched so variously that no one could say with certainty what was the original material—and plunge with zest into the river, where he disported himself 'like a creature native and indued', clambering back on to the raft with his cheerful grin to dry in the sun. There are no *piranhas* here. Lower down the river bathing is an amusement which only a fool would risk, for, although *piranhas* infest the Amazon and are common in all the Ucayali, they are only found in the lower reaches of the Huallaga. The boldness and savagery of these fish fiends are amazing and have to be seen to be believed. They move in shoals, are as ferocious as sharks and more daring, and have triangular teeth

that will sever any tackle less strong than steel wire. The slightest suspicion of blood is an irresistible bait to them, and where they exist it is no exaggeration to state that a wounded man or animal in the water is doomed. Instantly they swarm in mass formation to the feast and with concentrated frenzy fall upon their prey, stripping in a few minutes every vestige of living flesh from the bones, devouring it with incredible rapidity.

In some districts of Brazil, when a herd of animals has to ford a river, it is a usual custom to drive a weak or sick animal into the water first at a little distance from and just before the main herd is driven through, in order that the others may be safe from attack through the *piranhas* that swarm in these waters concentrating on a single victim.

At dusk we camped on a little island where the American party also moored their canoe and spent the night. They have an armoury of weapons of offence and defence and fired off a good many shots during the evening, for which, as after the Cardinal's strenuous effort with bell, book, and candle in *The Jackdaw of Rheims*, 'nobody seemed one penny the worse'. Like yesterday, we passed the night under an improvised shelter of *caña brava*, and slept in peace and comfort, after supping off soup, rice, biscuits, fried bananas, a papaya, and, as *pièce de résistance*, the last of the two luckless hens, which, tethered by one foot to a pole of the raft, had voyaged with us from Tingo Maria.

Monday, July 4th

Just before sunrise we were startled by what French military documents during the War used to call 'a well-nourished' fusillade from the American camp. Suggestions of a big-game battue or a row with the natives both seemed improbable explanations, for jaguars and pumas are fearful and only anxious to keep out of harm's way and natives conspicuously friendly. Later in the day we discovered that it was our American fellow travellers' salute to Independence Day which had disturbed the peace of the Huallaga at daybreak—another crime to the debit account of Liberty!

The thick white mists of early morning, which reduced visibility to 20 or 30 yds., quickly dispersed and drifted in long strands of ethereal vapour along the valley, above which the mountain-tops in crowns of golden light stood contemplating in majestic silence the waking to life of the inmates of the jungle. By the time we had breakfasted and embarked once more on the *Saucy Sara* we knew that there are times when proverbial dogs and Englishmen are ready and even anxious to surrender a place in the sun. Soon we were sweltering in the hottest day since leaving Huanuco, and were grateful for the rare occasions when tall, overhanging trees gave slight protection from the sun's too ardent rays. The river is still fringed with *caña brava* and a dense tangle of tropical growth interlaced with lianes and trees covered with epiphytes growing down to the water's edge. Flowers are relatively rare, although four trees, one with cream-coloured,

solitary flowers looking from a distance like a half-opened *Magnolia grandiflora*, with ovate leaves with russet reverse, a stately giant *Cochlospermum* with greyish-white bark and lovely, fleshy, lemon-coloured blossoms 2 in. across in terminal panicles, the tall *Triplaris peruviana* (Polygonaceae), with inflorescence ranging from dazzling scarlet to the palest pink, also a tree with small, rose-coloured flowers, which I was never able to identify, stand out conspicuously in the eternal green. Tall palm-trees, gracefully aristocratic, and long-tailed macaws flying high, usually in pairs, show that we have progressed towards the Amazon country. A small black kingfisher, a drab little Roundhead compared with his Cavalier cousin, the turquoise lightning flash of English rivers, numerous members of the swallow family, the dazzling little scarlet Tanager (*Piranga flava lutea*) locally called the cardinal bird, with its cheerful, melodious song, and an attractive small white hunter, probably a tern, that flies about 15 ft. above the river and drops like a stone on its prey in the manner of the gannet or Solan Goose, give constant interest to our progress. Parrots screech and monkeys chatter unseen in the tree-tops, a pigeon with a single note utters its mournful plaint and several large and small representatives of the heron family watch us pass from the banks with an air of detached reproof for interrupting their fishing. Words are powerless to describe the untroubled beauty of the river here. At each bend, with thickly wooded hills forming an ever-changing background, one lovely vista succeeds another, with stretches of placid water reflecting mountain, sky and overhanging tree,

dancing rapids and little foam-flecked whirlpools, cool grey boulders clad with mosses, ferns, and diminutive shrubs, above a sky of dazzling blue patterned with piled-up draperies of banks of grey-white clouds, and around it for endless miles the impregnable ramparts of the silent jungle. For most of our course to-day the Huallaga was about half the breadth of the Thames at Tower Bridge with a current, we judged, averaging about three and a half to four miles an hour. Smooth stretches alternated with small rapids, but there were no *malos pasos*, in spite of which our *Bogas* allowed the raft to crash into a submerged tree through devoting excessive attention to a comely young person with honey-coloured skin and a scarlet blossom tucked into her sleek hair, tossing lively impertinences from a passing canoe. We were told that we should pass 'Verdun' during the morning—and we did, at least that we were assured is the imposing name of a thatched hut surrounded by banana-trees built by the water's edge, an appropriate residence one would imagine for that burlesque creation of Henri Christophe, negro Emperor of Haiti, the Count of Limonade! Not that there would be any red-hot favourite were 'Verdun' entered to run in the Absurdity Stakes against the 'Chatsworths', 'Balmorals', and 'Welbecks' of English suburban crescents.

About 1.30 we reached our first halt, Uchiza, on the left bank of the river, the 'port', as it is called, of the townlet of that name, which is about five hours' ride away inland through the forest. The raft, the poles of which are on the small side, is already rather low in the water, so we shall spend three nights here while a new *balsa* is being built to do the next stage

of our journey. The 'port' is merely a collection of six or eight thatched houses, built near the edge of the Huallaga above flood level, at a point where a small tributary of the same name as the port enters the river, which here broadens out to some 200 yds. across. The water is shallow and the tiny bay opposite the settlement seems to be the local Lido for enjoying mixed (very) bathing.

We are staying in the house of the local administrator of the Government Salt Monopoly, a Yuri-maguas man with a grown-up daughter by a former marriage and a promising two-year-old by his present wife with beady eyes and a pointed, peering little face like an inquisitive tree bear, who has, unhappily, learnt that piercing yells are its quickest and most effective means of blackmail. My bedroom, which is usually the Salt Monopoly Office, although lacking in orthodox furniture, is equipped with several canoe paddles, a case of dynamite for killing fish, half a dozen razor-edged *machetes*, some sacks of *barbasco*, a large bunch of ripening bananas suspended in one corner, and a quantity of dried fish. The bananas attracted flies and the fish stank, so I had them removed and settled in as comfortably as circumstances allowed. Michael decided, as the room was small for two beds and mosquito nets, and the vampire bats that infest this region make it imperative to sleep under a net, to camp on the veranda, where his dressing and undressing are an endless source of amusement and interest to the household, any casual visitors, and especially to the progeny of a prolific cook, to whom Gringos appeal like a travelling circus to the children of an English village. Vampire bats are a real danger at

Uchiza, and even the *Bogas*, whose leather-like skin makes them relatively impervious to the bites of sand-flies and mosquitoes, sleep under shelter here. The house is to all intents and purposes a small reproduction of the hotel at Tingo Maria, with the added delight of an enchanting view of the Huallaga from its veranda. The Americans are installed a stone's throw from where we are staying in a large *tambo* nearer the water, not exactly a 'desirable riverside residence', anyhow in the rainy season, but acceptable enough quarters during these breathless, tropical moonlit nights. London, Lima, and the world we know seem remote and shadowy here—even pleasantly remote. For with dictators making European equilibrium oscillate with the noise of their weekly rodomontades and the ether alive with rumours of war, there is a certain satisfaction in being secure from the evening shock of the wireless news and knowing that nearly three months must elapse before we need again acquire the habit of our daily draught of apprehension in the form of a morning paper.

Tuesday, July 5th

Devoted the morning to writing some long overdue letters, which we hope to be able to post in about a fortnight's time to catch an air mail from Iquitos to the Pacific coast. My labours were pleasantly distracted by the comic antics of a small marmoset-like monkey, tethered to the veranda rail, black, with a long bushy tail and a white moustache. Although it looks like a little old man, it is actually very young—in fact, an infant—and is the inseparable companion

of another orphan, one Paula, child of a deceased peon, whom the kind-hearted Don Leonicio has taken into his household and more or less adopted. When cold or feeling bored, the little animal cries persistently for Paula, like a neglected child, and, the moment she releases it, jumps up on her dark blue beret or shoulder, where it sits for hours contemplating the strange milieu in which Fate has placed it with a slightly mistrustful, puzzled expression. As a grotesque travesty of a human being, it is a rather pathetic little figure, but it is not unfriendly, and a succulent piece of banana or papaya is a sure passport to its indulgence.

In the afternoon walked about 5 km. through the forest by the road which leads to the townlet of Uchiza. The road, which is the only one of any kind in the district, is actually only a clearing about 4 yds. wide, following more or less the course of a stream through the jungle after going for a mile or so between plantations of banana- and papaya-trees. Even now, when the dry season is already advanced, the road is knee-deep in mud in many places, where it is advisable to pass on prostrate trees, cut down and left lying lengthways along the sides of the trail for the convenience of wayfarers travelling on foot.

From the botanical point of view, the walk was singularly unproductive, for trees and shrubs bordering the trail were mostly in fruit and curiously devoid of epiphytes, though I collected a handsome scarlet Acanthacea, probably a *Jacobinia*,¹ growing in the river bed. The paucity of flowers at the moment brings home vividly the truth of Raimondi's observation on

¹ Afterwards identified as *Pachystachys coccinea*, formerly grouped under *Jacobinia*.

the advisability of a collector passing a whole year in most districts of Peru if he wishes to comb a given area thoroughly. Except in such localities as, for instance, the coastal desert, where the *Lomas* vegetation has to accomplish its life-cycle during the period of the winter sea-fogs, there is nothing in most parts of Peru like a floral outburst succeeding a dead season, and in the great tropical and sub-tropical provinces growth is never suspended, so that one species in flower follows another throughout the year. Thus the exciting possibility always exists that a collector may have the good fortune to hit off the blossoming of an uncommon species with a brief flowering season, which may have been overlooked through being inconspicuously in seed when others passed that way before him.

In the evening before dinner we rashly inspected our host's kitchen, with the not unusual result of the heart grieving a great deal more after the eye had seen, what we saw among the prevailing dirt and disorder, including a large family of rat-like guinea-pigs, born and reared in sight of their ultimate destiny, the kitchen pot. They make fair soup, but their tasteless, stringy flesh and the small amount of meat on their bones does not recommend them to the discerning as a *plat principal*, though the fact that the port of Uchiza on the river highway is destitute at the moment of both bread and sugar makes us realize that in still more inaccessible regions we may live to be very grateful for the guinea-pig.

Surrendered my bedroom to Michael, who, not having my lucky capacity for almost instantaneous sleep in any conditions except cold, had a poor night

on the veranda. Slept very comfortably there, the air being fresh and cool after a violent rain-storm in the earlier part of the evening, but cheated the natives of the excitement of their evening circus by undressing in the state bedroom before settling down under my mosquito net outside.

Wednesday, July 6th

Walked in the morning through the banana groves planted on the river bank downstream and lost my way, having to wander about for over an hour even in that restricted area before I could discover the felled tree which does duty for a bridge, in order to re-cross the stream at a point where a track through thick undergrowth leads back to the 'port'. Found very few plants in flower, but enjoyed watching at close quarters two toucans digging their enormous beaks with zest into a juicy papaya¹ fruit.

Inspected our *balsa*, which will be ready for us to embark on to-morrow morning. It is larger by seven poles than the *Saucy Sara*, and has an extension from the stern end of the platform, upon which a thick layer of earth placed on a heap of banana leaves makes an excellent foundation for a fire for cooking.

We discovered that many vampires are accustomed to pass the hours of daylight suspended inside the thatch of the attic above our dwelling. This fact, of

¹ *Carica Papaya*, the Pawpaw tree, 12-20 ft. high, unbranching, with very soft, fibrous wood. The handsome leaves are palmately seven-lobed, 18 in. to 2 ft. across, and the fruits (8-14 in. long) cluster thickly all round the stem from the lower axils of the pistillate plant. The flesh is orange and the rind green, being in flavour and appearance not unlike a melon. There are about twenty species of *Carica*, and all from the American tropics.

course, proved an irresistible lure to the American naturalists, who decided that no time must be lost in organizing a bat-hunt. Accordingly, we climbed up into the attic above our room, which was used for storing rubbish, thickly encrusted with the dust of ages, and picked our way with infinite precautions across the not too strong bamboo poles which formed the ceiling of our room below to the far corner of the roof-tree, where high-pitched, rat-like squeakings revealed the presence of the quarry. One of the Americans, armed with a formidable pair of tongs, climbed up on another's shoulders, while a third stood by holding a large jar containing chloroform. The rest of us flashed electric torches into the corner, where an obscene tangle of shapeless bodies with long, black, indiarubber-like wings hung in the darkness. For a second or two the filthy mass remained motionless, blinking at the light, then, swiftly disentangling themselves, flew past us in a cloud, but not before the Nimrod with the tongs had secured two specimens, which he popped adroitly into the chloroform jar, Fate having reserved for them a more specious destiny than that of their fellow Phyllostomatidae—a show-case in an American museum!

Bats are probably numerically the most largely developed order of mammals in South America. In Brazil alone there are nearly 100 species, and the blood-sucking group abounds in that country and in the tropical districts of Peru. Some persons are said to be more liable to be bitten than others, but in places where these creatures exist it is always unsafe for any one to sleep with any parts of the body exposed. The hands, feet, and nose are most likely to be selected

for attack, and poultry and domestic animals are constantly victimized. Darwin, in his *Naturalist's Voyage Round the World*, describes the capture in his presence one evening of a vampire on the withers of a horse in the course of an excursion from Rio de Janeiro to Cape Frio, and A. R. Wallace, in *Travels on the Amazon*, describes another horse, which had been severely bitten, as 'presenting a most pitiable appearance, large streams of clotted blood running down from several wounds on its back and sides'. Vampires rarely attack any one not asleep and they always operate in the dark, so that a continuous-burning light will give immunity from their attentions. Locals inform me that they never pounce upon their victims from above, but circle round and round for some time as if to reconnoitre their prey. If this statement is correct, and I have no reason for doubting it, screens placed close round a bed would make a sleeper safe. Chickens often die from loss of blood after being bitten, usually on the head or neck, and the superior construction of the fowl-houses at Uchiza and the care with which their mongrel tenants are shut in at night gives striking proof of the damage that can be done by these nocturnal pests. Blood-sucking bats have small bodies about 3 in. in length and vary in colour in different localities, whereas *Vampirus spectrum*,¹ of alarming aspect, with wings having a spread of 30 in., is a fruitarian.

Before falling asleep on my camp-bed on the veranda, I noticed a number of vampires circling

¹ Cp. Mr. Ivan T. Sanderson's article on the fauna of Netherlands Guiana in the *Illustrated London News*, April 15th, 1939: 'The largest bat (*Vampirus spectrum*) with immense jaws, killed and partially ate our young chickens, and often went into the dustbin to extract the chicken entrails.' Perhaps the data are still insufficient to pronounce authoritatively on this point.

round me, and, pondering in the safe shelter of my mosquito net the difficulty the creatures must have in obtaining their daily ration of blood, slid gently down the steps of oblivion to a gradual diminuendo of Lewis Carroll's classical speculation, 'Do cats eat bats?' or, pregnant with meaning at Uchiza, 'Do bats eat cats?'

Thursday, July 7th

While we were finishing breakfast on the veranda, a local *peon* arrived requesting Don Leonicio to give him a remedy for a wound on the middle finger of his left hand, caused by the bite of a vampire bat during the night. Looking at the deep, circular hole, and remembering how easily one can be woken by a mosquito sting, it seemed incredible that the man could have slept while the wound was being made, so incredible that we were almost inclined to give credence to the rather fantastic theory that the saliva of these bats has an anaesthetic quality, which renders their victims insensitive to the pain of their bite. One thing is certain, no operating surgeon could have made a similar hole on an unanaesthetized patient without waking him. Don Leonicio, to whom the theory of pain-deadening saliva is new, tells us that these vampires have tongues ending with horny papillae, and it is believed that by this means they gently and gradually abrade the skin with a circular movement, while the swiftly fanning wings lull their victims to deeper slumber.

The *peon* looked very white and exhausted, but, seeing him for the first time, we could not tell if it

was his habitual appearance or the result of the vampire's banquet. Obviously one small bat could not consume sufficient blood in a night to affect the health of a grown man; but it would seem to be possible, and even probable, that once a wound were made, a number of vampires might gather in succession to the feast so long as the hand remained exposed, and this, prolonged for hours during the night, could cause serious loss of blood.

About 11 a.m. we took leave of our kind host and his family with real regret and embarked on the *Giddy Gloria*, as we christened the new raft, in honour of a house of cheerful memories in the vicinity of Lima. Like many Peruvians of pure Spanish descent, Don Leonicio has perfectly easy, simple manners, calculated to put a big interrogation mark after Wilde's witty impertinence that Nature's gentleman is quite the worst type of gentleman one can meet, though Wilde had almost certainly nothing much more serious in mind than the technique of dining-out in Mayfair. And even if eating peas with a knife would probably not appear on either the debit or credit side of St. Peter's accounts, it is unhappily true that there are times and places when drinking from a finger-bowl would be less venial than a breach of all the Decalogue, so Don Leonicio would certainly be as incongruous at one of Mrs. A—— J——'s splendacious dinners as the star turns among her guests would be on the veranda at Uchiza, for where kind hearts and coronets are concerned, a coronet would probably cut as little ice on the Huallaga as a kind heart in Vanity Fair.

With two hard-eyed chickens tethered to the raft poles, a bunch of freshly-cut, juicy bananas, three



LLAMAS IN THE HIGH ANDES



OUR RIVERSIDE RESIDENCE AT UCHIZA



BUILDING OF THE SECOND RAFT, THE *GIDDY GLORIA*



AUTHOR AND O'HALLORAN ON THE THIRD RAFT,
THE *LUCKY LUIA*

dozen eggs, a basket of papayas with their rind scarred with vertical cuts to hasten ripening, a hen of canonical years simmering in a pot with plenty of rice, and the bags containing our camp-beds arranged on the raft's platform with cunning contrivance by Michael to form makeshift *chaises-longues*, we fared forth in happy mood.

The crew of the *Giddy Gloria* consists of Miguel as chief raftsman, a pleasant-mannered fellow of Spanish descent, of spare, unathletic build, but supposed to have a good knowledge of the river; José, a sturdy, cheerful, highly intelligent Indian boy; and Bartolomeo, said improbably to have done secretarial work for Don Leonicio and to be the Ace of the Salt Mine. The last appears to be a complete 'wash out' from every point of view, any wits or physical strength he may originally have had having dissolved under the combined influences of malaria and coca-chewing.

The day was an easy one for the crew, the river bed dropping but little and its current flowing in leisurely manner between low banks fringed with dense jungle with an almost complete absence of huts and clearings. About an hour after starting, we came upon a fellow voyager, who had also come by raft from Tingo Maria with a freight of merchandise for his general store at Saposoa, stuck in mid-stream on a pile of submerged drift. The *balsa* was overladen, and, having voyaged all the way from Tingo Maria, was rather too low in the water for safety, so that we felt a little apprehensive for the fate of the cargo, if not for the Merchant Prince himself, as we had christened the energetic little half-caste pedlar. It was impossible here, where the current was swift, to stop the *Giddy Gloria* and go to his aid; but we called to him in passing and were relieved to

learn that he did not seem very concerned about his plight, and as we rounded the next river-bend we were glad to see that a passing canoe being poled upstream had, with the freemasonry that is one of the charms of river travel in Peru, stopped and gone to the help of the stranded *balsa*.

Towards sunset we moored our raft and camped on a pleasant, dry stretch of shingle, where the crew cut poles and soon had the necessary shelter put up and thatched and our camp-beds and mosquito nets ready for the night. Just as we had settled down to supper on the *Giddy Gloria*, the Merchant Prince came drifting downstream and camped near us, his cargo intact and he none the worse for what, with his constant journeyings by river, was probably a not unusual experience.

Before turning in, I shaved by moonlight and, after the usual nightly ablutions in a green-canvas, collapsible bucket, fell asleep almost at once to the habitual orchestra of croaking frogs and chirruping crickets.

Friday, July 8th

Pushed off soon after sunrise, the river all day broad and smooth-flowing and, except for some high hills clad with dense forest, might almost have deluded a traveller unfamiliar with tropical plant life into thinking it was the Thames at Nuneham!

The heat was intense, reaching a maximum of 110° Fahrenheit in the shade at 1 p.m. and we regretted that the many *malos pasos* ahead of us to-morrow and the perilous Cayumba Rapid, which we have to shoot

on Sunday, make a thatched shelter to our raft's platform impossible for this stage of the voyage.

Towards noon we stopped at Pato, a small settlement built high up on a bluff overhanging the river. Pato will not be found on any map, not even on Raimondi's monumental thirty-four-sheet map of Peru, for the excellent reason that it has only been in existence for about two years. The brief story of its foundation illustrates one of the difficulties of cartographers of Peru. The half-caste population of Esperanza, lower down the river, for a reason we could not discover—possibly an epidemic, flooding, or decreased fertility of their clearings—suddenly decided to abandon that place and found Pato, where previously no habitation existed. In a country so sparsely populated as Peru a cluster of a dozen shacks is often printed on a map as though it were an important centre, so that it can easily happen that a traveller may arrive hoping to pass the night at a settlement all traces of which have disappeared following the death or migration of its few inhabitants. Pato is rather imposingly situated, the cliff on which it stands being well above highest flood level. The rapid rise and flooding of the Huallaga's banks during the rainy months is the reason why townlets are often built on elevations inland seven or eight miles away from their 'ports' of the same names, the rough forest trail leading to them from the river being sometimes impassable for weeks on end.

A party of young girls, small-boned and of predominantly Indian type, were doing desultory laundry work and bathing at the foot of a steep track and steps leading from the village down to the water's edge.

We moored the *Giddy Gloria* and toiled up the sun-baked path, partly to take photographs and partly on the usual egg and chicken quest. The village is surprisingly clean-looking and rather attractively laid out, the thatched houses, not built on piles, each standing in the middle of a little patch of cultivation, surrounded by well-kept fences with enchanting long-distance views up and down the Huallaga. The village bore, looking rather like a greasy Neapolitan, half-drunk and garrulous, deciding that we must be itinerant photographers, which in a sense we were, tacked himself on to us, full of *pisco* and importunities, posing absurdly for his picture in Pato's main thoroughfare. The village had no eggs or chickens for sale, but we were able to buy some freshly caught fish, which we carried back to the *balsa*, followed by our 'drunkino' friend, whose whining demands for a cigar played a snivelling diminuendo as we pushed off downstream again. Our raftsmen, José, with an eye to a possible deal further down the river, had purchased a quantity of semi-dried fish, but his commercial instincts had to be restrained when he proceeded to plaster the *balsa* with scaly corpses in order to complete their drying in the sun, the combined stink and attraction for flies making the *Giddy Gloria* more like a stall in an Oriental bazaar than the most chic raft on the Huallaga.

Sand-flies plagued us sorely all day and, unable to follow out that counsel of perfection in the tropics—or anywhere else for that matter—never to scratch, we were soon as spotted as Dalmatian dogs, with our pocket bottles of iodine in constant use.

We landed just before sunset (the brief tropical

twilight hardly giving us time to get things shipshape before night was upon us) and were lucky in being able to sleep in a Government-built *tambo*. *Tambos* are one of the most usual forms of night-shelter when travelling off the beaten track in Peru. They are merely a thatched roof, often extremely well made and weatherproof, erected on six to ten stout poles. This one was large and of particularly solid construction, with plenty of room for sleeping with the extensions on our mosquito nets, and it was very necessary here to sleep well protected, for mosquitoes swarmed after sunset, eager for their fill of Gringo blood.

The Merchant Prince camped on the beach near us, but there were no signs of the American party, who, when we left Uchiza, were having trouble over the building of their *balsa*, the difficulties of the next stretch of the river, and especially the Cayumba Rapid, making it inadvisable for them to do this stage of their Odyssey by canoe.

Saturday, July 9th

We embarked about 8 a.m. and started the day with rather a formidable *malo paso* round the first river-bend, where the full force of the strong, swift current forms a large whirlpool against high grey rocks with submerged outcrops on the left bank. The raftsmen told us last night that they would look upon this place as a test for the river-worthy qualities of the *Giddy Gloria*. Unhappily, we pushed off too soon after the Merchant Prince and so drifted too close to his *balsa*,

which was still revolving in the whirlpool when we were caught in the current and crashed into him. For a few seconds it looked as if a combination of rocks, current, whirlpool, and the protruding irregularly cut sterns of the two *balsas* might land us all in difficulties; but we were soon clear of each other and, after two or three revolutions, getting each time, assisted by the raftsmen's paddles, nearer the outer edge of the whirlpool, we sped down the river, the *Giddy Gloria* having passed the test with flying colours.

This day was the hardest one for the *Bogas* since we left Tingo Maria. The constant fall of the river-bed and its irregular course among rocks, piled-up drift, and submerged trees, with many little rapids, whirlpools, and cross-currents demanded constant vigilance from the crew.

Apart from knowing or being able to sense the course to be steered, the great art of piloting a raft is a capacity to judge to a nicety how far to paddle to right or left, so that the strength and direction of the current will make a *balsa* drift just clear of obstacles ahead. It is this continual moving from bank to bank, combined with the necessity of being always alert for difficulties to come, that makes a day arduous, and not the working of the paddles, which demands habit and knack rather than strength. Unlike our first *balsa*, which was steered by short 4-ft. paddles with the raftsmen sitting on their haunches or crouching half in and half out of the water, the *Giddy Gloria* was propelled by two long 10-ft. sweeps worked from tripods fixed each side of the front part of the raft, the *Bogas* standing facing downstream with their feet

firmly planted in deep notches cut in the poles to give purchase and prevent them from slipping.

During the afternoon the friendly owner of a small hut standing in its little clearing of yuca and bananas ran down to the water's edge and shouted to our *Bogas* to warn them about a difficult channel a few miles down the river, half-blocked by a fallen tree, not far from the spot where the Huallaga narrows to cut through the gorges of Sion and Pericote. Just before reaching this place, the river opens out into a wide basin, surrounded by low, wooded hills of various height and infinite variation of contour. The peace and beauty of the scene, which will remain a precious memory so long as memory lasts, was heightened by fleecy banks of cumulus cloud bulging over the hill-tops, reflected in stretches of placid water.

The jungle by the water's edge is rather less thick here, and I noticed, as we drifted close to the banks, three or four species of epiphytic *Epidendrums* and, in a cool, shady corner at the river's brink, a group of thirty to forty large white *Sobralias*, on stems 3 to 4 ft. high. These were the only *display* of orchids I have seen in Peru since some glorious groups of *Bletia catenulata*, a lovely terrestrial species with Monsignor-violet-coloured flowers, growing high up in the Perene Valley, and *Epidendrum ibaguense*, a handsome species with orange and flame-coloured flowers on 3-ft. stems, which flourishes in abundance on the hill-sides between Palca and San Ramon. I cursed travel by raft and our inability to stop and raid the vestals of the river-bank; but there was little time for regrets, as the pace of the current quickened and swept us onwards to where the channel narrowed to the

malo paso against which we had been warned. From the angle from which we first saw it, there appeared to be hardly space through which a raft could squeeze, a little rapid rushing between the right bank and a large protruding rock against which a caught-up tree with an accumulation of drift lying across the river left only the narrowest of passages. However, our *Bogas* rose well to the occasion and with a very neat bit of steering piloted us adroitly through without mishap.

The next hour was one of the high spots of the Huallaga's course, the two cañons of Sion and Pericote, separated from each other by a stretch of deep, strongly flowing water. The sides of the two gorges rise sheer out of the river in places to a height of some 200 ft. and the river here narrows to rather less than 30 yds. across. The bases of the perpendicular cliffs are hollowed out by the water's action into the most fantastic caves and grottoes and their perpendicular sides are festooned with many varieties of shrubs and ferns, mosses, dangling lianes, tree-ferns, &c., tenaciously clinging wherever cracks and crevices in disintegrating rocks afford root-hold. Coming from the sparkle of the sun-illuminated river into the unearthly silence and shadow of the great gorges was rather like entering the cool austerity of Seville Cathedral from the glare and glitter of the Sierpes. One felt almost a pang at our inability to stop and savour the beauty of a passing scene, which we were seeing for the first and almost certainly for the last time, and the sudden shouts of our *Bogas* to provoke an echo seemed like a desecration of a place 'where all the air a solemn stillness holds' and perhaps the

majestic notes of an organ alone would not have jarred.

Below the gorges the river opens out again into a pleasant little wooded basin, and we camped on a broad, dry stretch of shingle on its right bank, and night fell on the unusual scene of the Huallaga's waters illumined by three camp-fires—ours, the Merchant Prince's, and that of the American party, who arrived after sunset.

To-morrow is the peak-point of our difficulties, for the Cayumba Rapid of sinister repute is only about fifteen minutes below this camping-ground, and once we have safely passed that place there is, we are told, no other formidable rapid between there and Yuriaguas, where we leave the Huallaga and turn westward for the Pacific coast.

Sunday, July 10th

Since leaving Tingo Maria we had often discussed the advisability of walking round the Cayumba Rapid and meeting our *balsa* below; but the Merchant Prince, for whom the Huallaga is the precarious highway from Lima to his home town of Saposoa, and so speaks of it as a native of Welwyn Garden City discourses on the Great North Road, told us that with the river in its present condition only an exceptional piece of bad luck or carelessness on the part of the *Bogas* would cause the raft to overturn. The drop of 15 ft. in a very short distance, which makes the rapid almost a small waterfall, constitutes its danger and makes it vital for a *balsa* to strike the fall at the

right angle. It is, we are told, always a perilous place when the river is in flood and only last year three priests of the Pasionista Mission were drowned there. However, the optimism of the Merchant Prince and the alternative of several hours trudge through the jungle along the vaguest of trails with rivers of unknown depth to ford made us decide to stick to the ship. Smyth and Lowe, who passed that way on December 31st, 1834, describe this rapid under the name of Savalayacu, which is obviously the place always referred to locally now as the Cayumba. 'The fall of Cayumba' described by them is at the junction of a left-bank affluent of that name with the Huallaga some miles above Tingo Maria. The following is Smyth and Lowe's account of this stage of their Odyssey in their too-little-known book, *Journey from Lima to Para*: 'We now again entered a mountainous range, where the river, being confined in its course, whirled us about, and rendered the navigation very dangerous for canoes. During the day we passed the following *malpasos*, all of which are formidable obstructions to canoes: Isanapi, Cajon de Sion, Raton, Acholmich, Talchimich, Shapisma, Savalayacu, Culchiuanusca, and Shumansu. At Savalayacu, the river has a decided fall or shoot, and sweeps down in a perfect torrent. The Indians took the large canoe down, but got it nearly filled with water: the small one was let down by ropes, while we crossed over the hill on the left bank, and rejoined them below the fall. We went down on all the other *malpasos* in the canoes.' Lieutenant Herndon, of the U.S.A. Navy, who went down the Huallaga by canoe in August, 1851, seventeen years after Smyth and Lowe, those

pioneers of South American travel who crossed what was then an almost unknown continent, had shown the way, also calls this rapid Savalayacu. He writes in *The Valley of the Amazon*: 'We passed the *mal-paso* of Shapiama, and, with fifteen minutes' interval, those of Savalayacu and Cachihuanushca. In the first two the canoes were let down with ropes, and we shot the last under oar, which I was surprised at, as I had heard that it was one of the worst on the river. *Malos pasos*, however, which are formidable when the river is full, are comparatively safe when it is low; and vice versa. Smyth passed when the river was high—I at the opposite season; and for this reason our accounts of the rapids would vary and appear contradictory.'

The mists were already dispersing on the hill-tops and the river sparkling in the morning sun when we weighed anchor about 8.30. Even the crew seemed a little silent and keyed up, as though conscious that the next half-hour would be the supreme test of their river craft and of the quality of the child of their hands, the *Giddy Gloria*.

Before pushing off, we made everything extra snug on the *balsa*, with cooking utensils lashed to the poles, all our small impedimenta firmly wedged between the wooden cases and bags containing the camp-beds, our heavy boots tied to the platform and the funds of the expedition in the pockets of a money belt, although, in the event of a mishap, had we succeeded in getting ashore, boots would have been a far more urgent problem than finance.

'Here lie two sisters by water confounded,
One died of dropsy, the other was drowned',

quoted Michael cheerfully as we pushed off, provoking the obvious, if illogical, retort that as neither of us had dropsy there was every reason for hoping we might escape the second alternative.

The river soon narrowed and after less than fifteen minutes' drifting down a current rapidly increasing in speed and volume, we heard the sound of rushing water and, as we turned a corner, a stretch of turbulent river boiling between high, rocky banks marked the beginnings of the famous rapid. The actual shooting of it was in the nature of an anti-climax. Three or four bumps and crashes, the raft tilted at an angle, and an upward surge of water which came up through the platform, and in less than half a minute the Cayumba was behind us and the *Giddy Gloria*, unscathed, was dancing down the defeated river steered by our triumphant *Bogas*. Michael, who has the natural balance of a chamois, took photographs with lightning speed; but the actual time spent in coming down the fall was so brief that we could hardly believe, after all the preliminary discussion and preparation, that the place we had just been over was really the Cayumba of ill repute and not merely a prelude of worse things to come.

Stopped at the small settlement of Chuguaygua on the left bank about 1 p.m. and bought six eggs, a dozen lemons, and two coconuts (one bad) for 40 centavos, approximately fourpence, which were a welcome addition to our midday meal.

The afternoon passed without incident and we spent the night comfortably in a large clean *tambo* on the clearing of a friend of the Merchant Prince. The place was used for making *garapa*, a spirit produced

by fermenting sugar-cane. The sides of the strong wooden press made an excellent dressing-table and with the comfort of the extensions on our mosquito nets and our camp-beds sheltered by a thatched roof we soon fell asleep to the rhythmic murmur of running water.

Monday, July 11th

Struck camp and breakfasted soon after daybreak and drifted down the river bathed in the golden ecstasy of sunrise in the tropics. Shortly after pushing off, we passed the mouth of the Huayabamba. This river, after its junction with the Unanza, is one of the more important of the many left-bank affluents of the Huallaga. It is navigable for canoes, we are told, for about a hundred miles and is the high road from the Huallaga to the townlet of Pachiza. This townlet was visited by Smyth and Lowe in 1835, who mention that monkeys seemed then to be a favourite food with the natives, for they saw 'great numbers hanging up dried in most of the houses'. So far monkey meat has not figured on our menu, and although theoretically I feel to shoot and devour one would be akin to murder and cannibalism, if the larder were empty, I should doubtless be no more squeamish about a monkey steak than many others before me.

We reached Juanjui, the 'port' of Saposoá, about 10 a.m., moored the *Giddy Gloria* at the mouth of a little creek, took leave of the Merchant Prince, who has invited us to visit him at Saposoá, and went ashore in search of sleeping quarters. The little town, with its church, large *plaza* with tall palm-trees, sprinkling

of general stores, and reasonably clean-looking little houses, makes a pleasant, friendly impression, especially now when a naturalized Asiatic importation, *Melia Azedarach* (Meliaceae), with dark lilac flowers in panicles, fills the side streets, where it grows in profusion, with honey-sweet scent. Naturally there is no inn where travellers can stay, so we hired a large room with whitewashed walls and a tiled floor, no windows, but instead big double doors divided into two, opening on the street, so that by keeping the lower half shut and the top half open, we can combine light and air with privacy—anyhow, from children not tall enough to peer over the lower halves. The only furniture in the room is two wooden beds, which we use as dressing-tables; but with our camp-beds, the canvas buckets supplemented by the loan of a tin jug and basin for washing, the purchase of two large empty kerosene tins for water, our two collapsible chairs put together, and the canvas bath ready for use, we are most comfortably installed. Our eccentric demands for hot water from our landlord next door caused slight consternation; but with a little pertinacity it arrived in dribblets, and, fortified by the moral support of a bath (the first one for three weeks), a shave, and clean shirts, we sallied forth to submit ourselves to the critical gaze of Juanjui.

We were disappointed at not meeting our American naturalist friends here, and made a little apprehensive for their safety by the tidings that they had dismissed their *Bogas*, who were drunken and unsatisfactory, and proceeded on their way alone. For, although the river is in perfect condition at the moment, the Estero Rapids and the Pongo de Aguirre below Shapaja are

always difficult places to navigate, in spite of the fact that there have been far fewer accidents there than at the Cayumba fall.

Our landlord has arranged for us to have our meals with one Don Ephraim Hernandez, who is the proprietor of a combined drug-store and draper's shop. The meals, which are well cooked and cleanly served, are eaten out of doors in the shade of a wide, thatched eave looking out on a small courtyard. Don Ephraim and his wife have simple, friendly manners and the knack of making their guests feel quickly at home. Another stranger at their table was a mystery man, whose name we never heard. We gathered that his sympathies were politically pink, if not roaringly red, and that the remoteness of Juanjui from the scene of his former activities (whatever they may have been) makes it at the moment something in the nature of a sanctuary. He is the worst type of bore, a would-be intellectual with pretensions. After luncheon he settled down with rather ostentatious concentration to the study of a tattered Lima newspaper; but as it was dated January 17th (six months old) it appeared unlikely that we should find him the last word in up-to-date information on current events. A more attractive familiar of the back-yard is a small, chestnut-coloured deer¹ standing about 3 ft. high, fat and well-cared for, with lovely, startled eyes when we try to make friendly overtures, though the family appear to have gained its tolerant, if not enthusiastic, confidence.

Any attractions that Juanjui may possess for its juvenile population paled this evening before the

¹ The common brocket (*Mayama Americana*).

room of the two Gringos, the door of which was surrounded by a group of black-eyed, staring youngsters, to whom every article of our kit was a source of excitement and amusement. Prominent among them was one Malvina, about ten years old, one of a family of eight, who made several journeys to and from her home, returning each time with a fresh brother or sister to see the show, including Julian, aged fourteen months, who was a little scared by Michael's black beard and attempts to amuse him. Finally, the street outside became rather like the pit door of a popular theatrical success, so we rang down the curtain by closing the upper and lower doors of our room, after which the spectators reluctantly dispersed and, with the moonlight flooding the deserted street—deserted save for droves of long-legged, scavenging pigs—we soon fell asleep in the unfamiliar surroundings of a room.

Tuesday, July 12th

Clouds low upon the hills and heavy rain in the morning, which made us decide to postpone a contemplated ride to Saposoa to visit the Merchant Prince.

As a new raft is being built to take us from here to Yurimaguas, the Uchiza raftsmen were paid off and we said good-bye to them: to Miguel, a willing, cheerful soul who had piloted us well, with regret; to the lazy, incompetent Ace of the Salt Mine with satisfaction at seeing the last of him. The sturdy and exceedingly competent José is, we hope, going with us as far as Yurimaguas; but we shall only know for



JOSÉ PILOTING THE *GIDDY GLORIA* DOWN THE HUALLAGA



THE ESTERO RAPIDS, THE HUALLAGA



VIEW OF THE HUALLAGA FROM PATO



TREE WITH ORIOLES' HANGING NESTS, THE HUALLAGA

certain after he has returned from seeing his family, who live downstream near the confluence of the Sapo with the Huallaga. The cost of building the *Giddy Gloria*, the crew's wages, and keep for five days, worked out (including tips and Don Leonicio's commission) at the equivalent of £8 10s., about 10s. more than the cost of the Tingo Maria to Uchiza stage of the journey.

In the afternoon walked along a muddy trail through the forest and collected a few specimens, including the handsome scarlet passion-flower (*Passiflora coccinea*) which is very widely distributed in South America, *Hamelia patens*, a shrubby Rubiad with pale orange-red flowers, borne in small terminal panicles, *Humiria floribunda* (Humiriaceae), a shrub with small, slightly scented white flowers and ovate, rather coriaceous leaves, and an attractive scandent Composite, *Lycoseris triplinervia*, with orange flowers borne singly like small marigolds.

The outskirts of Juanjui, where the soil is light and the jungle not too dense, are well adapted for watching the activities of the leaf-cutting ants, which swarm in their millions in South-American forests. The collection of satisfactory botanical specimens in the tropical districts of Peru is often made exceedingly difficult by the presence of these ubiquitous marauders, of which there are many different species. Their activity appears to be ceaseless and untiring, and endless processions can be seen climbing the trees and shrubs suitable to their needs, cutting neat, almost circular holes in the leaves with their mandibles and carrying off in unending processions the pieces bitten out, often larger than themselves and held aloft like

sunshades, to the formicarium. Here the scraps are cut up into minute fragments by a special section of the community of smaller size dedicated to this work, and used as a kind of compost or manure for growing a white fungus-like substance, upon which the colony feeds. Certain trees and shrubs are rejected by the ants as unsuitable for their mushroom-beds and they are careful that the fragments of leaves which they take into their underground nests should be neither too wet nor too dry, a correct temperature and right degree of moisture being, as all mushroom-growers know, the two vital factors of successful cultivation. According to H. W. Bates, these segments of leaves are also used for thatching the domes which cover the entrances to their subterranean dwellings in order to protect the broods in the nests below from heavy rain. Bates also gives an interesting account in *The Naturalist on the River Amazons* (as a proof of the wide ramifications of these formicariums), of an attempt made by a French gardener to extirpate a colony from the Botanic Gardens at Pará by making fires over the main entrances to the formicarium and blowing fumes of sulphur down the galleries with bellows. When this was done smoke was seen issuing from outlets 70 yds. away from the place where the bellows were being used.

In many places on the edge of the forest long, well-worn tracks, hundreds of yards in length, converge on the formicariums, which are usually situated in an open glade or where tropical growth is not too dense. These burrows are entered by long tunnels which descend into the earth to a depth of 6 ft. and more in some places, where soil is favourable to the ants'

labours, the average depth being probably determined by an even temperature for rearing their broods and growing the fungus upon which the life of the community depends. This minute fungus is known to scientists as *Rhizites gaezylophora*, and one of the strangest facts in the lives of these totalitarian insects is that, after the nuptial flight, each queen ant, before departing on her solitary mission to found a new colony, fills a pocket in her cheeks, apparently designed for this special purpose, with a minute speck of the precious fungus, which she takes with her to ensure the food supply of the coming race.

Along the left bank of the Huallaga going downstream we also observed—what we had seen before in many other places—large numbers of nests of another species of small reddish-brown ants, looking like round woody excrescences on the boughs and trunks of trees, of a rather brittle consistency, not unlike papier mâché, made of wood reduced to powder and cemented by these ants by means of a fluid which they secrete. We cut through one of these with a *machete*, revealing the galleries, nurseries, incubating chambers, and all the complicated communal life of the race. Interesting as it was to us, it must have been to the unfortunate inhabitants a major disaster to their city comparable with the earthquake which destroyed Lima in 1746.

While much of the life-cycle of ants can be ascribed to inherited instinct rather than reason—although the words ‘inherited instinct’ are little more than a phrase used to label a process about which we know nothing—there are times when the activities of these insects are too like human reason to be described by any

other term. A friend once told me how he watched a gardener in South America trying to save a tree from the depredations of a leaf-cutting species of ants by painting a broad band of some sticky substance round the trunk to prevent them from passing. The ants coming down the tree-trunk with their burdens stopped at the gum-band, returned to the branches above and dropped the pieces they had cut to the ground, which were then carried off by other members of the colony waiting below. Later on, presumably when tired or afraid of breaking trade union regulations by working overtime, they deliberately curled themselves double and dropped to the ground in order to avoid passing over the danger zone!

Decided in the evening, as the weather has improved, to go to-morrow and write my name at the palace of the Merchant Prince, so, as Saposoa is about a day's ride going due north from here, I arranged to start as soon after 6 a.m. as possible, and turned in early, disappointing the youthful population of Juanjui in their expectations of a great ten o'clock strip-tease act!

Wednesday, July 13th

Succeeded in starting at 7 a.m., after only half an hour's wait for the *peon*, who arrived with a morose-looking mule and a small but stocky bay pony. As I should be spending the night under cover at Saposoa and intended returning to Juanjui to-morrow, I took no impedimenta except a mackintosh sheet, an air-cushion, my two collecting tins, a felt-covered flask full of cold tea and, stuffed into a saddle-bag, pyjamas,

a spare shirt and socks, a cake of soap, a tooth-brush, and some oranges. Michael, who had decided to stay quietly at home, commissioned me, as matches are at the moment an unobtainable luxury at Juanjui, and our supply is running low, to buy a dozen boxes at that great shopping centre, Saposo.

Although the day looked doubtful, rain held off for the first two hours and the going was very pleasant along a broad, grassy way, following downstream the left bank of the Huallaga, a way fringed with graceful parabolas of palm-trees and gay with quantities of the same scarlet-flowered shrubby Acanthacea I had collected near Uchiza. At about 10 a.m., just as we reached the bottom of the ascent of the first *cuesta*¹ a heavy downpour started which lasted over half an hour. Luckily, we were able to take shelter under a forest giant fallen across our way with room beneath its bulk (the banks on each side of the trail there being rather high) to stand the mule and pony lengthways and thus keep them and the saddles dry. The next two hours the going was damnable, up and down four short but terrifically steep *cuestas* with a surface of greasy, yellow clay as slippery as ice after the rain. Of course I dismounted and let the mule go her own line and pace (a slow one at the best of times), but she picked her way cleverly and, although stumbling a bit and groaning in protest, reached the end of the last *cuesta* without mishap. Several times my feet nearly shot from under me, but I too reached the bottom of the last little descent without taking a toss, blessing the London bootmaker who made the heavily nailed Alpine boots I was wearing. The *peon*

¹ *Cuesta*, a way up a steep hill or mountain-side.

was not an intelligent travelling companion, and the following is a fair example of his conversational efforts:

C. S. (*hopefully*): Does this horrible greasy clay continue all the way to Saposoa?

PEON (*with conviction*): Yes.

C. S. (*incredulously*): The whole way?

PEON (*with equal conviction*): No.

C. S. (*exasperated*): Yes or no?

PEON (*feeling cornered, truthful at last*): I don't know.

After another still heavier rain-storm we again entered thick forest and shortly afterwards an animal, looking rather like a small, greyish pig, crossed the trail: it may have been a young peccary, but the time it was visible was too short to make it possible to identify it. I also saw a rather pretty, pale copper-coloured snake with a flat head about the thickness of a man's middle finger coiled up beside the track, the second one only that I have seen during the two months I have been in Peru, although one not infrequently sees grass and dry leaves stir as they glide away from a noise which may spell danger to them.

In the middle of the afternoon we reached the village of Sacanche, a picturesque, cheerful-looking place with some fine palm-trees, well-thatched dwellings, and a certain amount of cultivation, for local consumption, of oranges, bananas, yuca, maize, and sugar-cane. A thunder-storm, which had been growling on the leash all the afternoon, now threatened to break loose and heavy rain began to fall, so I decided to ask the owners of a house, built near a large tree, upon which I counted no less than twenty-two hanging orioles' nests, if I might shelter there. Greatly to my surprise, Miguel, our chief raftsmen, was there on

a visit: he made us very welcome, but we did not stay long, for the storm did not break, but drew off down the Sapo, the right bank of which we were now following, though the river was not in sight.

About 5 p.m. we reached the Sapo at the point above which, on the high left bank, Saposoia is built. There is no bridge, so the river has to be forded, not quite easy except when the water is low, for the current runs swiftly here, and there are deep places quite impossible to ford, sometimes for days on end, when the river is in flood. To-day there had been enough rain in the hills to make the passage a little hard for a mule carrying a heavy weight at the end of a long day. At one moment the tired beast, with the water up to its belly, began backing downstream and I could feel that it was with difficulty keeping its feet against the current on the stony river-bed. There was no danger, though the possibility of arriving at Saposoia soaked to the buff without a change of clothes was not a pleasant one, and the thought of my new Leica camera being immersed in the Sapo was particularly disquieting. However, we crossed without mishap, to find Saposoia *en fête* in honour of N. S. del Carmen, the Patroness of the town.

Standing outside the large ramshackle church in a cheerful group which included the Padre we met the Merchant Prince, who greeted us cordially, introduced me to his friends and took us to his house, which is almost next to his store in the High Street. We went through a big, lofty room, furnished only with an immense table and two life-size, enlarged

photographs, to a rather neglected courtyard with a stable beyond, in which a handsome old woman with a firm profile was reclining in a hammock near a mango-tree—Madame Mère.

The Merchant Prince had kindly arranged for me to spend the night in a friend's house further up the High Street, whither I was escorted by a voluble old gentleman, who said *en route* that he supposed London was five or even ten times as large as Saposoá, which may have a thousand inhabitants! My room was enormous, 24 ft. by 18 ft., but rather sparsely furnished with a table, at which twenty people could dine, and a long bench running almost the length of one wall. My host here, a tall, bearded man of a marked Spanish type, was kindness itself, and was able, luckily, to provide me with a camp-bed and a tin jug and basin, so, as whitewashed walls and tiled floor were spotlessly clean, with my air-cushion and mackintosh sheet, I had every reason for looking forward to a comfortable night.

After a simple meal with the Merchant Prince, consisting of meat with rice and beans washed down by tea flavoured with lemon juice, I asked to be allowed to turn in, for the day had been a long one. Even a group of dancers wearing masks curvetting in the High Street in honour of N. S. del Carmen could not tempt me to take part in the local revels. Hardly had my head touched my air-cushion than I fell asleep to the rhythmic noise of drum and fife, the distant sound of song and dance and the gay chatter of groups of boys and girls strolling up and down the moonlit street in happy holiday mood.

Thursday, July 14th

Breakfasted early off fried eggs, rice, and coffee with the Merchant Prince and his four brothers (Madame Mère did not appear), and said good-bye to them and Saposoá with regret. It was a clear golden morning, fresh after yesterday's thunder-storm, with strands of white vapour still clinging to the distant hills, the habitation of many *tigres*, as the jaguar is called in Peru. The little town is delightfully situated in an attractive open bit of country, and I should like to settle down here for some weeks and explore the flora of the surrounding forest, for this part of the Montaña is botanically still almost unknown. Geographically, Saposoá is extremely isolated, for, although not far from the highway of the Huallaga, its 'port' is unfortunately situated between the Cayumba fall above and the Estero rapids below, while a vast tract of jungle forms an impenetrable barrier to the west. Goods offered for sale in the two or three small stores here are pitifully meagre. I was unable to buy even bananas, lemons, or chocolate, and all my attempts to get matches produced only one small box, thanks to the exertions of my voluble old friend of last evening.

The Sapo had fallen during the night, but I decided not to risk damaging the precious camera, so I was ferried across the river by canoe, while my mule, tied to the tail of the pony which the *peon* was riding, went through the ford easily with no weight to carry.

At Pishcoyacu (the first village we passed through on the homeward ride) where I was assured I should

find an abundance of oranges, lemons, bananas, and papayas, all my attempts to purchase fruit were stonewalled with the exasperatingly laconic 'No hay'! Perhaps there really were none or perhaps they were too lazy to pick them, but the result was the same. My disappointment was increased by the discovery that the Merchant Prince's cook had only filled my flask about a third full of tea, which was quite insufficient for a day's journey in intense heat. Luckily, we were able to buy four lemons from an old woman laundering in a stream we forded and, with a slab of Lima chocolate, half a dozen biscuits, and a supply of fresh water from a clear swift-flowing river near Sacanche, food and drink for the day were assured.

The surface of the *cuestas* had dried sufficiently for walking to be merely arduous and not precarious, and all the way, where the track wandered through the misty green of the forest stabbed with shafts of vivid sunlight, the day was one of sheer joy with the trail illumined by scores of butterflies of breath-taking beauty . . . metallic blue morphos, with their floppy, inconsequent flight, dancing fantasies of pink and green spotted mica, tiger-like swallow-tails with black and yellow stripes, pale coffee-coloured exquisites with apricot blotches on insubstantial wings, and a hundred others of every hue and pattern.

The mule, like most of her kind, was sure-footed, but infernally slow, and I became so weary of legging her along that I made the *peon* ride close behind and deputed to him the task of keeping her going by any means to which she would respond.

Arrived back at Juanjui about 5.30, rather tired and very hungry after being about ten hours *en route* and

having covered riding and walking some forty miles in the thirty-four hours since setting out for Saposoa.

Friday, July 15th

Left Juanjui at 10 a.m. in the new *balsa*, the biggest and best of the three rafts, with twenty-four poles and a thatch of palm leaves to shelter the platform—in fact almost a State Barge. The *Lucky Luia*, so called after a charming lady who rules social life in Lima with justice and mercy, has a crew of three: José, restored to us by the family conclave, Adolfo, a rather handsome, intelligent Indian lad, with features suggesting a strain of Spanish blood, and a piratical-looking, toothless old ruffian, with surprisingly good manners and a rough, Rabelaisian sense of humour, blessed with the resonant name of Santiago.

At Tingo, a small settlement near the confluence of the Sapo with the Huallaga, José asked us to stop the *balsa* in order that he might take leave of his family. After an absence of twenty minutes, he returned carrying a revolting-looking hen with black feathers and blacker flesh—a present to the Gringos from his mother. We thanked him and asked him if he was sure that his mother had not slain a vulture by mistake; but he had the laugh on us an hour or two later when the vulture reappeared in the guise of really first-class chicken broth. With the exception of fighting gamecocks, which are carefully bred and have the walk and air conferred by sixteen quarterings, and a depraved-looking race of ancestral pretensions with bare, chilblain-coloured necks unredeemed by a single

feather, Peruvian chickens are the bastard descendants of immemorial crosses, with their laying capacity often reduced to a minimum by generations of incestuous descent.

Most of to-day the Huallaga wandered between low banks, an unruffled surface of polished brass reflecting every detail of the inverted trees, with the same jungle walls hemming in its course, the same ruthless press of plant life forcing the foremost to the water's utmost edge, the same purposeful serpent threading a silver way through primeval silence Atlantic-wards.

We passed more huts than previously, with now and then a few small, dun-coloured cattle grazing in minute clearings, and at rare intervals some fair-sized plantations of maize, banana, sugar-cane, and yuca. The last must not be confounded with yucca, a name given by the great sixteenth-century herbalist, Gerard, to the handsome family of Liliaceous plants, of which *Yucca filamentosa* of subtropical gardens (commonly called Adam's Needle) is probably the best-known species. Yuca is the Quichua word for the manihot plant, belonging to the Euphorbiaceae, of the same order as our native spurge and of plants of such diverse appearance as *E. pulcherrima* (the Poinsettia) grown for the sake of its dazzling red upper leaves; *Ricinus communis*, with its handsome palmate leaves and bright red seed-coats (another subtropical favourite, producing castor-oil from the endosperm of its beans); *E. splendens* with small, twin scarlet bracts and long thorns (sometimes known as Christ's Crown), *Hevea brasiliensis*, the tree, the latex of which produces the finest rubber, and such Xerophytic types

as *E. grandidens* (a South African tree, 30-40 ft. high) and *E. meloformis*, not infrequently mistaken for a cactus, looking like a small green Canteloupe melon with the inconspicuous, greenish-yellow flowers characteristic of the Euphorbias, to mention only a few well-known representatives of an Order containing some 200 genera and 4,000 or more different species.

The manihots, of which 120 species are known, are nearly all of Brazilian origin, and of these *M. utilissima* (*Yuca brava*) and *M. peruviana* or *palmata* (*Yuca dulce*) two shrubby herbaceous species, are widely grown in Peru for the sake of their large, fleshy, edible roots, which develop at the base of the stem. The manihot is easily cultivated and is of extremely rapid growth, but, whereas the roots of *M. peruviana* can be dug up and cooked and eaten as a substitute for potatoes, which do not thrive in the tropics, or even for bread where corn and rye are unobtainable, *M. utilissima*, on account of its roots' high content of hydrocyanic acid, is very poisonous in its natural state and cannot be eaten even when cooked. Before being converted into flour fit for human food, the roots have to be subjected to a long process. Firstly, they are soaked in water in order to rot and facilitate the removal of the outer skins; the roots are then grated and put into presses, where all the moisture is squeezed out of them by high pressure. This thick, starchy liquid is kept in receptacles to go through a further process, which sets free the volatile poison and converts the residue into tapioca. The final preparation of the flour itself consists of toasting it over fires in large flat pans, during which process it is constantly turned and tossed in the air.

Although it is easy to understand how Indians might have acquired a knowledge of the deadly properties of *M. utilissima*, it is almost miraculous that a primitive, untutored people should have learnt the process by which a highly poisonous root can be converted into a nourishing and sustaining food. One wonders what experiments were made and upon whom, and how many victims succumbed before the secret was finally mastered!

Thunder growled and threatened in the distance most of the day and a very hot and sultry afternoon made us grateful for the *balsa*'s palm-leaf awning. The river flowed idly and our progress was slow, so that we were glad when, towards sunset, we found a pleasant stretch of sand and shingle, where we spent a peaceful night under a well-thatched shelter made by our efficient crew.

Saturday, July 16th

Pushed off just after daybreak, earlier than usual, for we had a long day ahead, the *Bogas* having told us that in the late afternoon we should go through the last strenuous effort the Huallaga has to make before emptying into the Marañon (the Amazon) below Yurimaguas—the long, but at this time of year not dangerous, Estero Rapids. There is a spirited engraving of this place in Smyth and Lowe's book, showing Indians up to their necks or waists in the water, and others standing on a rock on the left bank of the river guiding the canoe at a rope's end down a swift and turbulent rapid.

About an hour after starting, we passed the

settlement of Pumawasi, a picturesque jumble of mud and thatch maintaining a precarious foothold on a bluff on the left bank, between the ever-eroding river and the onpressing jungle, and shortly afterwards round the next bend, surrounded by many palm-trees, Picota, situated on the same bank. Nearly all townlets and settlements are on the Huallaga's left bank, and all its more important affluents, the Cayumba, Monzon, Tocache, Huayabamba, Sapo, and Mayo debouch into it from the same side. Smyth and Lowe give the number of tributaries, large and small, of the Huallaga between their point of embarkation near its confluence with the Chauchao above Tingo Maria to the mouth of the River Chipurana below the Estero Rapids, as eighty-six; but, of course, the big majority of these are only insignificant streams.

Lieutenant Herndon, in 1851, after passing a settlement on the river's right bank below Juanjui, mentions it as being the first one he had seen on the right bank of the Huallaga, its uninhabited condition being, he says, due to 'fear of the savages (or Infidels as they are called) who dwell on that side'. Probably the large number of left-bank tributaries which make the forest through which they flow more accessible by canoe, and the greater average elevation of the land on that bank above high-water level, were partly then, and are certainly now, the reason why the Huallaga's left bank is still preferred for settlements and cultivation, although it must be remembered that the thick right-bank jungle country between the Huallaga and Ucayali rivers is still the habitation of unfriendly Indians.¹

¹ A Lima man told Lieutenant Maw, author of *Passage from the Pacific to the Atlantic*, in 1827, that 'the inhabitants on the left bank of the river are better and more tractable than those of the right bank'.

Just beyond this point we saw on the branches of a tree on the river's margin some handsome reddish-chestnut-coloured gallinaceous birds about the size of a hen pheasant, which our *Bogas* described as 'wild peacocks' and said were highly esteemed by local gourmets. Almost certainly they were guans, possibly *Chamaefetes goudotii*.

In the early afternoon we landed optimistically at Shapaja, another left-bank village, about 1,200 ft. above sea-level, whence we had been told there might be some kind of postal communication with the Pacific coast via a newly-established air service from Tarapoto.

Shapaja is a village of some pretensions, for it boasts the unusual amenity of a Post Office: in other respects it bears the familiar hall-marks of other riverside settlements, small, thatched bungalows dumped without plan on a clearing, one or two general stores, a few palms superbly aloof, and irregular patches of banana-trees, sugar-cane, maize, and yuca. An attractive feature of the place is masses of *Caesalpinia pulcherrima* in full bloom now, a handsome leguminous shrub bearing flame-coloured flowers with long protruding scarlet stamens and Robinia-like foliage. *C. Gilliesii*, with lemon-coloured flowers and bright crimson stamens, is much used as a hedge plant in the neighbourhood of Lima. The latter will stand some frost, for I grew it successfully in my garden in the South of Spain, where the frost blackened lantanas and cut heliotropes to the ground.

The inhabitants, taken as a whole, look healthy and of better stamina and greater vitality than the people of other places we have visited, bearing out the good reputation the climate of this district has always borne

and still bears, according to our Juanjui and Saposoa friends. On this point, it is interesting to compare the statistics of births and deaths given by a local priest over a century ago with those quoted by Lieutenant Herndon, who visited Tarapoto¹ (nine miles inland from Shapaja) twenty-five years later. The priest states that in 1830 there were 213 births against 73 deaths—a ratio of 3 to 1. Herndon quotes a fellow countryman settled in the Montaña as telling him that ‘the births annually are from 220 to 250; the deaths from 30 to 50’, say a ratio of 6 to 1. Although there is some considerable discrepancy in the figures, both sets bear testimony to the exceptional salubrity of the Tarapoto district of the Huallaga.

At the Post Office, which was indistinguishable from any other shack and so had to be sought with faith, we learnt that the only official competent to deal with air mail correspondence—or any other business for that matter—was absent for the day, lured by the attractions of a family *fiesta*. He had left in charge a hard-visaged female, who sat like a Peruvian Norn behind a rude counter, knitting a dubious garment of magenta wool with an air of impending calamity, and apparently regarded our arrival as an unwarranted intrusion on a Civil Servant’s privacy. Her main function that afternoon seemed to be to protect from possible rape a brace of giggling half-caste trollops (nominally assistants), who, without paying the smallest attention to our efforts to extract postal information, stone-walled any and every inquiry with the inevitable ‘*No hay*’!

¹ The great botanist and traveller, Spruce, stayed here collecting plants from June, 1855, to March, 1857. See vol. ii of *Notes of a Botanist on the Amazon and Andes* (Spruce—edited by Alfred Russel Wallace).

A FORGOTTEN RIVER

We returned to the *Lucky Luia* neither sadder nor wiser, but rather amused by the language, manners, and customs of the Montaña Civil Service and feeling all the better for a half an hour's stroll ashore.

About an hour and a half below Shapaja the Hualaga narrows to some 60 yds., and shortly afterwards a familiar sound of rushing waters told us that we had reached the Estero Rapids. It took us a short half-hour to pass through the series of six rapids and the stretches of calmer water between them. Actually, to a lay eye, they appear much rougher and more formidable than the Cayumba, and in one place, where the river narrows to perhaps 20 yds., with a huge upstanding rock on the left side, it is easy to understand that fatal accidents have occurred there at flood-time; but, although the level of the river-bed drops considerably during its passage through the gorge, there is no single place presenting the danger of the Cayumba fall and the only mishaps of our passage were Michael's loss of a good Panama hat in the midst of a balancing act inspired by his photographic enthusiasm, and one of the sweeps breaking under the strain and having hastily to be lashed together. Luckily this happened in a comparatively smooth stretch of water between the rapids, for navigating with one sweep only might have landed us in serious difficulties.

In their narrative, Smyth and Lowe state that 'the stream, which rushed rapidly over the rocks on the left of the river, was actually a fall on the right side'. Princess Metternich, of Second Empire fame, when an indulgent male once described a charming lady as 'only fifty years old', said, with her instinct for a happy

phrase: '*Cinquante ans! C'est peu de chose pour une cathédrale, mais c'est beaucoup pour une femme.*' Fifty years or a century—even two centuries—are of small account in the life of a great river, so it is improbable that erosion could have played a large part in the disappearance of this fall, unless the undermining work of centuries reached its climax and caused a collapse of rock in the river-bed since Smyth and Lowe passed that way in 1834. Possibly the fall they mention was a great pile of accumulated drift, hidden by rushing waters, which subsequent floods swept away. All this stretch of the river must be formidable during the rains.

The rapids were kind to us, as they could have hardly failed to be with our expert crew and the river in its present condition, and nightfall brought us to the perfect camping ground, a *tambo* beside a clear-running mountain stream high above the river's left bank, looking across an exquisite stretch of placid water to where the tiny settlement of Aquamayuna nestles in a little bay backed by a friendly-looking range of sheltering hills.

Just as the grey of an all too brief tropical twilight was melting into the blue of night, a canoe glided silently upstream through the dusk. In the stern a strikingly handsome young Indian paddled his little craft with steady, rhythmic strokes: in the prow a young woman of calm, serene beauty held in her left arm a sturdy infant which she was suckling, while manipulating with her right arm a short canoe paddle. Both had the unconscious grace of wild animals and a perfect accord with their surroundings which etched the scene deep into memory. They returned our

greeting with a grave, unsmiling courtesy and disappeared for ever into the mists of evening.

Sunday, July 17th

Embarked at sunrise after a perfect night and about an hour later passed the mouth of the left-bank affluent, the Mayo River, and later, on the same bank, the settlement of Chasuta. Raimondi wrote of this place in 1860: 'The inhabitants of Chasuta are half savages, but very expert in navigating the Huallaga, in which river there are a great many *malos pasos*, so that only these Indians, accustomed from infancy to contend with obstacles of this kind, can pass through them in safety.' The men of Chasuta are to-day less than half-savages, but happily they have inherited the good tradition of being expert oarsmen: the river is their only highway and they have the habit of it from infancy. For, although Tarapoto now has a landing-ground for aeroplanes, the obstacles which the Huallaga offers to navigation between the 'ports' of Shapaja and Chasuta are now, as then, a severe handicap to these townlets, and the recent slump in the prices of agricultural products, the Montaña's only source of revenue, and the natural obstacles of the terrain make it likely that for some time, except for aeroplanes, improved communications between Tarapoto and the outside world will remain an unrealizable ideal.

Below Chasuta we landed at the salt mines of Callana Yacu, the main salt-supply of a large district. The earth here is rather red in colour and the district is

picturesque, with gently-inclined hills receding from the river banks, on which salt outcrops are visible. The two or three shacks of which the place consists had nothing of interest to offer and we did not stay long, but brought a small, 2-lb. block of salt away with us to supplement our rapidly diminishing supply.

The Pongo de Aguirre—or Salto de Aguirre, as it is sometimes called—below Callana Yacu, where the river again narrows to a breadth of some 30 yds., is formed by a sudden sharp bend, at which point, flowing at six or seven miles an hour, it dashes impetuously against a huge rock on the left side and forms a series of whirlpools just below, harmless enough when the river is low, but probably formidable after heavy rain. Remembering how the Thames Valley can be affected by a 3-4 ft. rise of the river, it is interesting to recall that Smyth and Lowe, who were held up here, mention that the Huallaga dropped 12 ft. in twenty-four hours!

In 1806 Father Bousquet made a remarkable pioneer journey by canoe down the Urubamba to its confluence with the Ucayali and thence by the Chipurana River to the Huallaga. This river being in flood, obliged him to turn back 'rather than risk the dangerous Pongo de Aguirre' and reach Tarapoto by a six days' journey upstream on the Caynarachi River, followed by a four days' trek on foot.

The origin of the name of the Pongo de Aguirre is now a half-forgotten story which is not without interest. In 1560 (twenty-five years after the foundation of Lima by Pizarro) the Viceroy of Peru, the Marques de Cañete, sent one Pedro de Ursua, to discover a rumoured Amazon El Dorado. This

expedition was fitted out at what is to-day the townlet of Lamas on the Mayo River, and an advance party was sent on from there down the Huallaga under the leadership of a certain Juan de Vargas and Lope de Aguirre. The whole expedition reached the Marañon without mishap; but, when they arrived at a place near the confluence of the Putumayo River with the Amazon, a conspiracy broke out, led by Lope de Aguirre, and Ursua and his second-in-command were assassinated.

The next step of the conspirators was formally to renounce their allegiance to Philip II and elect one of their number, Guzman¹ by name—cadet of a good Andalusian family—as a puppet monarch. After a nightmare Odyssey, in the course of which the unhappy betrothed of Ursua, Doña Inez de Atienza, was murdered and ‘King Guzman’ himself assassinated, the Marañones, as their leader had christened the gang of ruffians, after committing every kind of atrocity on any Indians they came across on their way, reached the ocean, probably by the Rio Negro and Orinoco River. Here they captured the island of Margarita, off Venezuela, where they killed all the Spanish Government officials and murdered and tortured the inhabitants. From there they set sail for the mainland and landed at Burburata, on the coast of Venezuela, whence Aguirre addressed an insolent communication to Philip II, which he dispatched to Spain by a captured monk. From Burburata the Marañones and their leader advanced into the interior,

¹ Perhaps a member of that great family, Perez de Guzman, one of whom saw his son, who had been taken prisoner by the Moors during the siege of Tarifa in 1340, killed before his eyes, rather than buy the boy's life at the price of the surrender of the city, since when the name has been written in letters of gold in the annals of the chivalry of Spain.

with the capture of New Granada as their objective, but Nemesis was awaiting them at last. A Spanish force sent against them met and defeated the piratical horde and Aguirre surrendered after killing his own daughter, who had accompanied the expedition from Peru, in order that she might 'never be called a traitor's daughter'. Justice was done on the spot and the arch-ruffian's head was sent to Tocugo, where it was publicly exhibited for many years afterwards in an iron cage. Needless to add that El Dorado, that *aura fames sacri*, which inspired the original expedition, remained undiscovered. The adventurers, who set out with such high hopes, perished almost to a man and nothing remains to-day but a rock and whirlpool in a forgotten river to recall the monstrous Aguirre.

About 3 p.m. we moored the raft at a place on the right bank where a small hot spring dribbles from amidst dense undergrowth into the river. Michael and the *Bogas* scrambled up the steep incline to where there was a sufficient volume of water to wash; but the surroundings were so muddy that I thought *al fresco* ablutions would be of doubtful benefit and decided to wait for hot water until Wednesday, when we hope to reach the Montaña metropolis of Yurimaguas. During the absence of the bathing party, I indulged in a little very amateur fishing with a hook, a string, and a piece of chicken's gizzard. Sport was poor, for after hooking two fish lightly, which wriggled back into the water, I landed a—to me—unknown species of revolting aspect, which the undaunted Santiago said was *muy rico* (very good eating) and proceeded to cook on a skewer over the fire for to-morrow's breakfast.

That night the chances of river travel provided a *tambo* on the left bank near the settlement of Tocalpa. It was an unattractive spot, surrounded by dense, dank jungle with, in a way impossible to define, a slightly sinister atmosphere.

Monday, July 18th

We both slept badly, in spite of having our camp-beds set up under the thatch of a comfortable *tambo*. There was something disquieting in this locality, which made itself persistently felt, perhaps the lingering vibrations of some forgotten evil, which still lay heavily on the atmosphere of the place with an almost tangible oppression. Every other night I had fallen asleep in five or ten minutes with a feeling of peace and content. This night I lay awake for hours, alert for every sound, staring into the darkness with nerves taut with unreasonable apprehension, as though some unseen danger had stirred a primitive sense, almost atrophied by the smug security of cities. Nothing happened, nothing occurred which in any way even suggested that anything untoward might happen. Sunrise modified, but did not dispel, the extreme distaste we both felt for the place, and we were glad to push off at 7 a.m. on the last lap but one of our Huallaga Odyssey.

The river, which became slow-flowing and very muddy beyond the settlement of Yana-yacu, broadened out to about 150 yds. wide with low banks and fairly frequent little farmsteads and the usual thatched huts standing on rickety stilts ready to wade at flood-time.

In the morning we passed on the right bank the mouth of the Chipurana River, by which, after three days' journey upstream by canoe through the Pampa del Sacramento¹ and a day's walk thence through jungle, the Ucayali River can be reached.

During the afternoon we saw once or twice the broad, rounded head and muzzle of the *Vaca Marina* (the Manatee of Florida creeks) appearing above the water. This familiar of South American rivers is a mammal. It reaches a length of 10-11 ft. and with its dull, leaden-coloured skin,² wide horizontal tail and seal-like flippers near the jaws looks like a cross between a fish and a seal. It has to come to the surface for air, for, like Leviathan, it suckles its young at the breast and breathes through lungs. Our *Bogas* told us that its flesh has the texture of pork³ and the flavour of beef, and there is a layer of blubber 1-2 in. thick beneath the skin from which oil is extracted. The creature is common in many localities and Raimondi mentions a place on the Upper Marañon below the famous Pongo de Manseriche, which used to be, and possibly still is, called *Vaca Marina*.

Our progress during the day was enlivened at intervals by the sound of drum and fife. Some

¹ This wild and unknown region was explored by Franciscan missionaries two centuries before Smyth and Lowe made their journey down the Huallaga.

² Father Cristoval de Acuna, a priest of the Company of Jesus and Censor of the Supreme General Inquisition, who navigated the Amazon in 1639, states in his *El Nuevo Descubrimiento del gran río de las Amazonas*, of which only four copies are known to exist, that the Indians make shields out of its thick skin, which, when well cured, are so strong that 'a ball from an arquebuss would not pass through them'.

³ According to Garcilasso Inca de la Vega, the creature's flesh is 'of so good a flavour and so nutritious, that a small quantity leaves a person better satisfied and more vigorous than if he had eaten double the amount of mutton'; but Bates states categorically that 'very few Europeans are able to eat the meat of this animal'. Perhaps 'Tastes differ' is the answer to this evidently debatable question.

left-bank settlements were celebrating the feast of the patron saint of the locality, and we passed a canoe, as crowded as a Ford car on a Bank Holiday at home, conveying a cheerful-looking *padre* with his familiars to the place where Mass would be said. The 'music' was just a continuous rhythmic beat and wail, suggesting that witch-doctors were getting busy in an African native village.

All the long, ardent day, transparent strands of shimmering heat coiled above the torpid, sun-sodden river, making us bless the palm-leaf awning of the *Lucky Laia*. Even so, ten hours of monotonous drifting upon its dawdling, muddy waters found us more than grateful when evening brought us to a Claridge's among *tambos* with a bamboo floor. Here we were again in a region of vampire bats and all the crew were careful to sleep with no part of their bodies exposed to possible attack.

Tuesday, July 19th

All our camping-grounds had been singularly unproductive of botanical specimens, and I was pleased at being able before setting forth at sunrise to collect two plants here, *Centrosema Plumieri*, a very beautiful leguminous climber with shell-pink blossoms an inch and a half long, and a canary-yellow scandent *Cucurbita*.

After three hours' drifting, we stopped at the left-bank settlement of Puerto Mercedes, where we exchanged a 6*d.* Woolworth brooch for a chicken and bought twelve eggs, two bottles of Lima beer, and

four boxes of matches for the equivalent of 2s. 8d. All this stretch of the Huallaga is slow-flowing and monotonous. We judged the rate of the current to average not more than three miles an hour: rain had fallen upstream and caused a slight rise in the river, though not sufficient to help us perceptibly. Notwithstanding the absence of rapids and intense heat all day, none of the crew dared bathe here, for, apart from the bloodthirsty *piranhas*, which infest these waters, much-dreaded electric eels and *caneros* are common in this part of the river. The electric eel (*Electrophorus electricus*) which grows to over 6 ft. in length, is capable of generating 500 volts of electricity and giving a shock severe enough to stun a horse by means of batteries situated either side of the spine in about two-thirds of the posterior end of its body. These batteries have been proved by experiment strong enough to light a small electric bulb. This eel is hardly ever found in swift-flowing water, but creeks, fords, or placid bays are its favourite habitations. The *canero*, a small, thread-like catfish of the genus *Pygidiidae* about 2 in. long, is a blood-sucking parasite, adapted for penetrating between the gills of larger fishes and remaining attached to its host. It is interesting, too, for being the only vertebrate parasite on man. A small species, *Vandellia cirrhosa*, said, though not definitely proved, to be urinophilous, penetrates the excretory organs of the human body, whence it cannot be dislodged except by a surgical operation owing to the two barbs behind its gills, which open out, like the barbs of an arrow, preventing its expulsion. There is, we have been told, a local tree, which we have not yet seen, from the fruit of which a brew

can be made that expels the creature. Wherever these fishes abound, natives always bathe with the genitals protected; but our crew wisely decided to take no risks, and incidentally the water was yellowish and as thick as a vegetable *purée* which in any case—apart from *piranhas*, electric eels, *caneros*, and possible stinging rays—lessened the Huallaga's attractions here as a popular bathing resort.

There is a larger *canero* in the Amazonian rivers, too large to penetrate the human orifices, whose taste for blood makes it inflict wounds on the bodies of horses, mules, or men bathing. A French naturalist, M. Jobert, gives an interesting and detailed description of a personal experience of their attacks in his *Sur la prétendue pénétration de poissons dans l'urèthre*.

Dugout canoes of all sizes and rafts sometimes consisting of only six or seven poles carrying local products and a precariously perched raftsmen, were, although not sufficiently frequent to demand a waterman on point duty, fairly numerous all day, increasing in numbers as the river brought us nearer to Yurimaguas. Towards nightfall sand-flies,¹ which had plagued us all day, were succeeded by mosquitoes, in spite of which we decided to have supper and sleep on the raft in order to reach Yurimaguas early tomorrow morning. The night was rather a disturbed one, with the crew's incessant chatter and frequent shouts and greetings exchanged with ghostly rivercraft passing in the darkness, accompanied by the invariable questions from both sides, 'Where have you come from?' and 'Where are you going to?'

¹ Sand-flies are known as *mosquitos* (the diminutive of *mosca*—a fly) whereas what we call mosquitoes are here always called *zancudos*.

DIARY OF THE EXPEDITION

A clammy river fog and an almost imperceptible, but treacherously cutting, wind in the early hours of the morning did not add to our comfort, and we were glad when sunrise brought hot coffee and the end of a rather disturbed night.

Wednesday, July 20th

Soon after sighting Yurimaguas, we were relieved to pass two of our American friends paddling upstream in a canoe off on a day's specimen hunting. They had all reached Yurimaguas in safety, though one stage of their journey had not been entirely a joy-ride, for their *balsa* had narrowly escaped shipwreck through having got wedged between two rocks in a swift current near the Estero Rapid, whence they extricated themselves with difficulty. They were also caught in the backwash of a rapid and drifted round and round for over an hour before they succeeded in manœuvring their raft out into the current again.

Yurimaguas, on the Huallaga's left bank, is about 580 ft. above sea-level, so that the river drops some 13,420 ft. during its way here from its beginnings in the Andes near Cerro de Pasco, and some 1,880 ft. between Tingo Maria, our 'port of embarkation' and Yurimaguas. Between this point and Iquitos (the capital of the Department) the Huallaga joins and becomes part of the Marañon and only drops some 200 ft. From Iquitos on its epic journey through 2,300 miles of jungle country to the Atlantic the *Sturm und Drang* of its impetuous Cordillera youth is but a memory, for the Amazon's fall in its

majestic progress across a continent is roughly only 380 ft.

Owing to its situation on the Huallaga, which is here over 200 yds. wide, Yurimaguas is, after Iquitos, the most important Peruvian town east of the Andes. The water in the main channel is over 40 ft. deep during the wet season and river launches navigate in four days once a fortnight throughout the year between these two towns, so that Iquitos, in spite of Peru having only a Pacific sea-board and being 2,300 miles up the Amazon, might not inaccurately be described as the Atlantic port of Loreto.

The Department of Loreto, into which Belgium, Holland, Denmark, and Portugal could be comfortably packed, includes most of the Peruvian *Montaña* and covers anything from 260,000 to 280,000 square miles of territory. The word *Montaña* often puzzles foreigners. It does not mean 'Mountains', as might easily be supposed, but the region of woods and forests on the eastern side of the Andes leading down to the tropical rivers. The flat, swampy ground on the banks of rivers in the tropical rain-forest is termed the *Matorral*, while the high mountain ranges are known as the *Cordilleras*, divided into the *Cordillera blanca*, with mountains capped with snow and glaciers, and the *Cordillera negra*, where snow is absent.

Yurimaguas, a town of 3,000 to 4,000 inhabitants, was founded about 230 years ago by Spanish missionaries, more than a century and a half prior to the foundation of Iquitos. It was so named after the Yurimaguas Indians, who at that time formed one of the most numerous and powerful groups of the Amazon Basin and were the original nucleus of the

town's population. Only a small remnant of this group survives to-day, the reduction in their numbers being mainly due to the inhuman activities of the old Portuguese slave-traders.¹ The brutal treatment and semi-extinction of the unfortunate South American Indian is one of the darkest pages in the story of colonial expansion. It is a familiar and oft-told tale. What is less well known is the story of the persistent efforts made by the Church and the rulers of Spain to protect the children of the Montaña and the Cordilleras from ill-treatment and oppression at the hands of their conquerors. Philip II decreed that offences against Indians should be more severely punished than crimes against Spaniards, and Philip IV, in the same spirit of benevolence and mercy, declared that, in order to save them from injustice and exploitation, Indians should be considered minors before the Law. Many bulls and briefs went forth from Rome designed to protect the Indians, and that scholarly American Catholic priest, Father Zahm, who wrote under the name of H. J. Mozans, quotes in his admirable *Along the Andes and Down the Amazon* a decree of Philip IV to the effect that Spaniards not conforming to the instructions contained in the briefs of Paul III² and Clement VIII, which ordered a more humane and liberal treatment of Indians, should be 'handed over to the Inquisition to be judged'.

With our arrival at Yurimaguas, the Huallaga stage

¹ The German Jesuit missionary, Father Samuel Fritz, describing a journey he made in 1691 accompanied by an escort of eight Portuguese soldiers from the town of Pará to the settlement of Nuestra Señora de las Nieves, not far from the confluence of the Yapura River with the Amazon, mentions that the Indians from this town and all the others they passed had fled into the forest from fear that his escort had come to capture slaves.

² This Pope pronounced a sentence of major excommunication against those who should plunder Indians or deprive them of their liberty.

of our journey was over. We moored the *Lucky Luia* and abandoned her with regret. The soft, spongy *balsa* wood is valueless except for raft-making. The cost of building the raft, the crew's wages and keep for six days, worked out at almost exactly £9. Had we tried to sell her we might, after much time and trouble, have been rewarded with the princely sum of 2s. to 4s.! We were sorry to part with the crew, who were a cheerful, hard-working, companionable trio: if ever we navigate this stretch of the river again by raft, I hope we may be lucky enough to have the same three men to pilot us. From some points of view, we would have been glad to take them with us on the next stage by canoe up the Paranápura River; but it is wiser, when travelling in the wilds of Peru, to engage raftsmen, *cargueros*, or muleteers for that stretch of the country only with which they are familiar. Indeed, most of them, more especially Indians, will not risk going into an unknown district, possibly inhabited by tribes hostile to their folk, and have perfectly clear-cut ideas of how far they will travel from their village or settlement.

The first sight of Yurimaguas, with its large church of modern construction with a self-conscious spire, standing with something of an air on a cliff above the river, the prestige of its ancient foundation, and to our now unaccustomed eyes the splendour of houses of more than one story, gives an impression of urban importance and possible cultural amenities, an impression which is quickly dispelled by closer acquaintance. Our way up from the riverside led through the usual neglected little streets, with a few diminutive shops and drinking-booths, to a large *plaza* with the

inevitable palm-trees, a derelict-looking bandstand, the church, the Civil Guards' quarters, a few large houses (some with the unusual luxury in the Montaña of glass windows) falling into decay, a combined shop and café of some pretensions, and a number of general, fairly well-stocked stores with flamboyantly inscribed names, which summed up the racial tendencies of the place in such bastard cacophonies as Moses Ricardo Cheng, Miguel Isaac Su, or Carlos Abraham Ping!

We engaged rooms at the house of one Don Miguel Acosta, a patriarchal old man, aged eighty-three, the father of sixteen children by two marriages. His second wife is a good-looking, motherly soul, whose contribution to Don Miguel's numerous family included two pretty daughters just growing up. Our rooms are large and cool, opening out on the street on one side and on the *patio* with its garden, round which the house is built, on the other. Four or five scavenger vultures (*Cathartes atratus*), those dingy-looking untouchables of the air, lounging, gorged with offal, in motionless despondency on a tree-top, two or three wild-eyed cats, a hand-reared sheep, some chickens, a dog so mongrel that one could not even hazard a guess about any of the ingredients that went to its making, and two lazy, good-tempered negress maids complete the household.

After we had settled in, we went to look up our other two American friends, who, we had learnt, were staying with an English missionary. We found the house without difficulty, well built and wired against mosquitos, with a pleasant loggia overlooking the river, and gladly accepted the invitation of their host and his kind American wife to share their midday

meal. We did not discover which of the many warring sects he represents, though we gathered that individual interpretation of the Book plays its usual unfortunate role, for he solemnly protested his conviction, based upon prophecies in the Scriptures, that 'nothing could prevent Mussolini from reconstructing the ancient Roman Empire', and, further, that this Empire 'would, of course, include all the south of England'. I suggested mildly that England might possibly make it her business to see that the prophecies were not fulfilled. There we let the matter end, for we knew that a discussion with no common emotional or intellectual meeting-ground would be as unprofitable as debating deep breathing as a road to salvation or the measurements of the Great Pyramid as a contribution to disarmament problems with devotees of their respective cults. 'Tea and shrimps with Jesus next Sunday at 5 p.m.' was the remarkable legend I once read inscribed with impeccable intention upon the door of a wayside shack in Devon devoted to unorthodox worship. Better perhaps than a promise of 'Musings and macaroni with Mussolini', but only a little better. It must always remain a question which is the more disastrous state, the anarchy of the spirit uncontrolled by the word or the barrenness of the word unilluminated by the spirit? Perhaps in this connexion it is good to ponder an august pronouncement which echoes down the centuries, backed by the authority of 2,000 years: 'Truth is whole, error is multiple, error breeds error *ad infinitum*.'

The eating-shop where we had our evening meal is a squalid, fly-infested place, run by an ill-mannered, debauched-looking, slovenly old ruffian. The food is

badly cooked and the service deplorable; but we have arranged to eat here during our stay in Yurimaguas, for it is Hobson's choice. Any appetite we may have was almost destroyed by the persistent importunities of a furtive, fox-coloured mongrel from the street, tottering from the weakness of the last stages of starvation, with ribs and backbone almost cutting through its lustreless skin. The miserable, neglected appearance of dogs all over Peru is one of the distressing sights to which travellers must accustom themselves. Remonstrance is useless and a waste of time, for tenderness to animals is a point of view that simply would not be understood.

We were glad to turn in soon after supper. Normally Yurimaguas keeps early hours, for the town's electric light is cut off at 10 p.m. Sleep, however, was made difficult by the younger of the two negress maids being in a sentimental mood and making night hideous by a strident rendering for over half an hour without intermission of '*Parlez-moi d'Amour*'. We felt that the choice of song was unfortunate, for, to judge from her figure's profile, some one had done rather more than merely speak of love to her. However, Julia is not the only one of us who does not profit by experience, and perhaps her strenuous musical efforts were inspired by nothing more than a wish to show the Gringos that Paris had contributed its quota to the culture of the Peruvian Montaña.

Thursday, July 21st

We are interested to find growing in Don Miguel's little back garden a specimen of the tree, a decoction

made from the fruit of which, as before mentioned, will expel a *canero* lodged in the human body, thereby obviating the danger of a surgical operation. Locally known as the *Huito* tree, it is a *Genipa* (a Rubiad, botanically very closely allied to the Gardenia) probably *Genipa Americana*. It has lanceolate, oblong leaves, superficially like the leaves of the Spanish Chestnut, and its flowers are white and about 1 in. across. This specimen has several unripe fruits hanging on the top branches; at present they are about the size of a small Victoria plum and the colour of the husk of a green almond. The fruit is edible, and a syrup made from the unripe fruit is, Dr. Miguel assures us, an unfailing method of dislodging the dangerous little parasitic catfish. A black dye, according to Spruce, is extracted from the fruit of this *Genipa* by the Indians, who use it for staining their skins; the flavour is said to be agreeable and it should be eaten when rather overripe, when it has the taste and consistence of a medlar.

In the morning we walked through the forest along a track which more or less follows the right bank of the Paranápura River. I collected specimens of a few plants, including *Thunbergia fragrans*¹ (Acanthaceae) a scandent plant with axillary, white, convolvulus-like flowers, a Cassia (*C. occidentalis*), a very widely distributed species (some 400 of which are known) with pale yellow flowers: it is a tropical species and, unlike many Cassias, has little value as a garden plant, though its seeds are sometimes used as a very inferior substitute for coffee. Masses of *Arrabidea platyphylla* (Bignoniaceae) were in flower, a shrub growing 12-14 ft. high,

¹ Probably introduced and escaped from cultivation.

with panicles of rosy heliotrope, tubular flowers, which droop quickly after being gathered. *Hirtella racemosa*, a very attractive Rosacea, was here very much in evidence, a shrub up to 10-12 ft. high with long terminal spikes composed of minute, pinkish lilac flowers. I also collected specimens of two very beautiful flowering shrubs, but only saw one of each, and only one truss of blossoms on each shrub, a Retiniphyllum (Rubiaceae) perhaps *R. fuchsoides*, with ten or twelve bright carmine-pink flowers with a long tube and five reflex, very pointed petals, growing either side of a terminal stem, and flashy looking *Erythrochiton brasiliensis* (Rutaceae) which has small umbels of flowers with a vivid sealing-wax red calyx $\frac{3}{4}$ in. long and dead white petals the same length. I do not know if it is amenable to cultivation,¹ but if it were, it would certainly, as a stove plant, merit that much-abused epithet of nurserymen's catalogues—'desirable'.

I did not expect to collect much in the forest, previous experience having already taught me that these elevations where the sub-tropical melts into the tropical and where dense jungle country begins to break into open spaces are the best localities for collecting. Here, except along the borders of the thread-like trail, which, but for the constant passing of men with *machetes*, would be completely obliterated by six months' growth, the air and sunshine which most plants crave are the prerogative only of the tree-tops.

In the afternoon we were introduced to the Mayor of Yurimaguas, a pleasant-mannered, intelligent man

¹ *Erythrochiton brasiliensis* is cultivated successfully in the tropical houses at Kew Gardens.

of considerable local influence, and had drinks with him at the chief café. He is arranging for the hire of the canoes and Indians who will pole us up the Paraná-pura and Cachi-yacu Rivers to Balsapuerto. He told us that all this region is going through an economic crisis on account of the fall in prices of agricultural produce. Ever since the rubber boom, with its attendant evils of speculation and inflated values, came to an end, this part of Peru has been on the downward grade, and many people who, during that period of abnormal prosperity, could afford to buy imported luxuries are now reduced to existing upon the bare necessities they can themselves produce. But, although the scale of living is low and comfort, as we understand it, non-existent, Nature is bountiful at Yuri-maguas, and if no one is rich, poverty is more endurable here than under the leaden skies of a manufacturing town in the distressed areas at home. Bananas, maize, yuca, and rice, supplemented by fish caught in the Huallaga, may not be a Boulestin standard of living, but no one able to obtain these simple foods need starve, and a single cotton garment fantastically patched can vie in length of life with the doublets and breeches of the Seises of the sacred dance of Seville Cathedral.

At the restaurant where we have our meals we became acquainted with a local doctor, who told us about a so-called *Veloria*, at which he had recently been present. It appears to be a kind of religious wild party held in secret by local Indians, and from his account is an astonishing mixture of sexual orgy and perverted mysticism. The atmosphere he described had something of the hysteria of a revival meeting

among darkies, but with less of the vitality and animal violence of the negro, and more of the sombre ritual of the Indian. The most obscene happenings, interlarded with prayers, take place before an altar erected to any saint they wish to honour, a *purée* of shuffling Indian dances and ancient rites, combined with a travesty of Catholic religious ceremony, possibly inspired by the same feeling that makes certain Guatemalan tribes attend Mass after indulging in their ancestral snake worship—a hope of placating the whole hierarchy of Olympus. Don A. did not actually hear the invocation of any heathen deity; but who can say what thoughts and desires may lurk in the unplumbed depths of an Indian's mind? I asked him if it would be possible for us to attend one of these esoteric gatherings; but he told us it was always difficult to learn when and where a *Veloria* was taking place and that the doubtful privilege of being present might entail spending some weeks at Yurimaguas. To compensate us for our disappointment in missing a *Veloria*, Dr. A. said he had arranged to take us that evening to a dance at which all the *gratin* of Yurimaguas would be present. It was a remarkable function. All the guests met at the Club at 8.30. Michael and I, feeling rather apologetic in our much-creased flannel suits, were taken on our arrival all round the large, bare room and introduced to every woman, who sat as close to each other as chairs could be placed, propping up the walls. There were about sixty of them, of all ages, sizes, and colours; formidable dowagers with moustaches that would have done credit to a Guards subaltern; exotic little creatures of Celestial origin with slant eyes and elaborately painted

faces, sitting motionless behind fans, smiling sleepily like well-fed cats; black-eyed girls with sullen mouths and small feet and hands, in which a strain of good Spanish descent still held its own; lively quadroons with woolly hair and strong white teeth; garishly dressed and hung with strings of gaudy beads; disillusioned-looking, elaborately upholstered matrons, critically appraising the cut of their friends' clothes and the charms of their friends' daughters—in fact, all the traditional feminine rivalry of a fashionable evening party. Most of the young men stood about looking rather hot and bothered, waiting for the moment when drinks would cheer their drooping spirits and dancing make the desired one more accessible.

After a brief wait, during which Michael and I were each allotted an official partner, the whole company, marshalled by a Master of Ceremonies, marched arm in arm in the best *vieille cour* tradition downstairs and through the streets in procession to the house where the ball was being given, the proceedings obviously having been designed to give the inner ring of Yurimaguas society a chance of displaying their clothes to the proletariat. On reaching our host's house, a band stationed in the *plaza* outside struck up a lively blare of discords in honour of the arrival of the distinguished company, quite well stage-managed, but missing its maximum of effect from no agreement having apparently been reached by the performers about what composition the various instruments would play. However, it was all very brilliant with beer, lemonade, and sandwiches *ad lib.*, and Yurimaguas kept awake by the noise of unwonted revelry. Michael, whose command

of Spanish might still be described as sketchy, looked a bit worried when his attractive little partner, hoping to interest him, launched forth on the story of her life. His reiterated '*Si, si, si*' seeming to indicate a want of interest, she said politely that she hoped she was not boring him, in reply to which the gallant Michael tried to explain that he enjoyed listening to her, adding that he was '*muy, muy simpatico*'. As *simpatico* means attractive and not, as he imagined, sympathetic to her troubles, the little girl, who naturally wanted to be told that she was '*muy, muy simpatica*' (very, very attractive), looked completely dazed at Michael's protest that he was a most attractive man. However, a couple of dances with the tall Gringo, to which the envious glances of her friends gave zest, soon restored Michael to complete favour, especially as, primed by an expert in local etiquette, he had come to the party with a bag of toffee in his pocket, from which in the intervals of dancing he distributed sticky largesse to his partner and her austere-looking chaperon.

An hour of this extremely decorous party was more than enough, so, feeling that an Indian *Veloria* would have been far more my line of country, I escaped long before midnight, leaving the fair women and brave men of Yurimaguas to their revels.

Friday, July 22nd

We spent most of the morning buying stores, &c., and packing in preparation for to-morrow's departure: we also went to say good-bye to our American naturalist friends and their missionary host. All the

time we were talking to them small urchins kept trickling in, standing expectantly on the veranda with frogs, toads, lizards, fish, and even cockroaches for sale. But the bottom had dropped clean out of the cockroach market, and even frogs had slumped badly, though the price of fish was still steady, and our friends bought one or two while we were there to add to their collections. We took leave of them all with regret, and they kindly promised to post a packet of letters for us at Iquitos, whence they will be taken by air-mail to Lima.

Every one we have met here evidently thinks us crazy for returning to Lima by the Balsapuerto-Moyobamba trail for pleasure, when we could return in a few hours by aeroplane from Iquitos. Both those who have done it and those who have not wax eloquent on its difficulties and perils, especially the arduous climb up the Escalera de Jesus (Ladder of Jesus) and the dangerous ford across the Puma-yacu River. The latter may be as bad as they say, and most certainly is after heavy rain; but as many people have passed that way before us, I do not see why we should not do it successfully too. The trail through the forest from Yurimaguas to Balsapuerto is said to be an easy one, especially during the dry season, and the journey only takes three days that way as against five by river; but we decided to do this stage by canoe, partly in order to see more of the beautiful Paranápura and Cachi-yacu Rivers and partly to enjoy the experience of travel by dugout.

We are not sorry that our stay at Yurimaguas has come to an end, for, although Don Miguel and his family have been most kind and helpful, and we have found his pleasant house both peaceful and comfortable,

there is an atmosphere of intrigue and social pretention among the town's mongrel population that makes us glad to feel that to-day is our last day here. Probably the sweepings of many races, dumped on the banks of a remote tropical river, are elements from which it would be difficult to evolve harmonious social relationships, though, so far as we are concerned, every one has been very friendly and pleasant to us during our brief stay here.

In the three days we have spent in Yurimaguas we came across two human documents, one tragic and one full of comedy. The second concerned a cheerful old scoundrel of riper years, who during a long life has scattered his seed broadcast over the district, although he has only one legitimate child, a daughter married to a local shopkeeper. On the death of his wife, his son-in-law and daughter had plagued him sorely by insisting upon the immediate payment of a sum of money to which they were legally entitled. The old man is rich, but the moment was an inconvenient one for him to pay out capital. However, they screwed it relentlessly out of him, and he is now spending his declining years in savouring a long revenge, which takes the form of producing every year three or four illegitimate children of all ages, sizes, shapes, and colours and giving them legal recognition, which, by Peruvian law, will entitle all of them to a share of his fortune on his decease! The daughter and son-in-law have so far exercised great restraint in not having him murdered, for up to the present over thirty half-brothers and sisters have appeared on the scene with future claims on the old man's estate.

The first story is a tragic one of a woman, a

foreigner, meeting an Iquitos man of charm, good looks, and cosmopolitan upbringing, falling in love with and marrying him when she was only eighteen years old, in spite of the remonstrances and warnings of her family. The rest of the story can be imagined; life in the sordid little Amazonian town with its rivalries, jealousies and backbiting, a husband who soon reverted to type and was surprised at a wife's resenting the presence of a mistress in the house or the arrival of a half-Indian illegitimate child, the wife thousands of miles away from family and friends, used to the amenities of a great city, financially entirely dependent upon a husband she despises, and devoted to an only son she cannot abandon. Here are all the elements of tragedy, with the son's or husband's death as the only possible release.

Saturday, July 23rd

We were roused early by the arrival of our Indians coming to carry the baggage down to the riverside to stow it away in the dugouts. They are a nondescript, underbred-looking lot, clad in patched shirts, cotton trousers, and large straw hats. With one exception, they only speak and understand Quichua. The Indians in the neighbourhood of Yurimaguas belong to the Cahuapanas group, so-called after a tributary of the Marañon and a townlet of the same name north-west of Yurimaguas. Many of them know some Spanish, but always speak Quichua among themselves. Their most important centre is Lamas near the River Mayo—the starting-point of the Aguirre Expedition.

Those we have seen wear no distinctive dress and do not paint their faces—due perhaps to contact with Yurimaguas culture. In addition to the two Indian families who have been engaged to pole the canoe up to Balsapuerto, a semi-Indian man, a native of Yurimaguas, is going with us as cook as far as Moyobamba. Estanislao (we call him Stanley for short) seems a remarkably intelligent, reliable type of man, who has already accompanied some German and Polish naturalists on long expeditions in the Montaña. An Indian boy, Adolfo by name, completes the party, engaged to assist Stanley and (we hope) to make himself generally useful. He is a rather pathetic little figure, with nostalgic eyes and a melancholy smile: not yet sixteen years old, he is an orphan and the sole support of two little brothers.

We breakfasted with Don Miguel and some of his numerous family, excellent fried eggs and rice, coffee and papaya, which I eat with every meal when possible, for not only has it a very delicate melon-like flavour, but it contains an appreciable amount of pepsin which helps the stomach to digest unaccustomed food eaten at irregular hours.

Just as we had finished breakfast, Julia, of musical and amorous proclivities, appeared still humming '*Parlez-moi d'Amour*' and produced from a half-closed drawer of the table at which we were sitting two particularly repulsive-looking semi-fledged parrots which she was bringing up, suggesting that we might like to take them back to Lima with us. We declined with thanks, in spite of Julia's protests that they were '*monissimos*', which might be translated into modern jargon 'simply Heaven'.

It was with real regret that we took leave of the nice Acosta family. Peruvians of their type have a simplicity of outlook, a native kindliness and pleasant, unpretentious manners, which make superficial relations with them particularly easy and agreeable, and old Don Miguel is, in addition, a very intelligent man. I hope, if ever I return to Yurimaguas, that I may still find him there enjoying his mellow, sunset years.

We made our way down the steep little side-streets to the riverside and started downstream at about 8.30 a.m., seen off by the friendly Mayor and a new acquaintance, a seedy-looking individual who described himself as 'representing the United Press'. We were informed that he is 'a most distinguished personage, who could give us a good write-up'; but we were unimpressed by the dazzling prospect and did not bestow the drink or tip or both, an expectation of which was obviously the mainspring of his interest in us.

Our canoes are just two hollowed-out tree-trunks, dugouts about 45 ft. in length and $3\frac{1}{2}$ ft. wide, one for our heavier kit and the other with a palm-leaf shelter, giving it something of the outline of a Venetian gondola, for ourselves and the smaller impedimenta. Each canoe is punted by four Indians standing up with light poles about 12 ft. in length.

After going downstream a few hundred yards, we reached the mouth of the Paranápura River (sometimes known locally as the Balsas River), a left-bank affluent of the Huallaga. Here we left the Huallaga of happy memories to complete the last easy stages of its long Amazon journey and, turning westwards up the Paranápura River, set our faces towards the Pacific coast.

The day was one of intense heat, and Michael, who sat outside, was grateful for an umbrella I had bought at a Japanese store that morning to shelter us from the sun's scorching rays. The river is very low at the moment, muddy and, except near its junction with the Huallaga, where there is a noticeable gradient, slow-flowing. The canoe seemed very cramped and rather uncomfortable after our roomy *balsas*, surely the perfect form of river travel.

During the morning we stopped to buy a chicken at a riverside shack, where an old woman lives, dedicated apparently to abortion. With the best will in the world to find her appearance evil and the atmosphere of the place sordid or even sinister, truth compels me to state that the little shanty, with its patch of cultivation in enchanting surroundings, looked clean and well kept, while the owner, with her dark, humorous eyes and smiling ironic mouth made a rather *simpatica* impression; but perhaps it is less what you do than your own mental attitude to it which marks a face. The Indian girl, under fourteen years old, who was there to disembarass herself of an unwanted burden, had the sleepy, indifferent expression of an unthinking animal. One knew, of course, and told oneself firmly, that it was all very dreadful and reprehensible and that if there weren't 'no ten Commandments' here, there most certainly should be; but, somehow, on the Paránapura it just didn't seem to matter much one way or the other.

The river soon became very shallow, and I noticed that the Indians' poles touched the river bed when only about one third of them was in the water. It was amazing to see how they could go on hour after hour

with a steady, rhythmic action, stopping only once for a quarter of an hour's rest between 8.30 a.m. and 1 p.m., when we landed to eat our midday meal.

Nightfall brought us to a clean and roomy *tambo*, the ideal sleeping-place on a fine night in the tropics.

Sunday, July 24th

We broke camp and started soon after sunrise, the drenching dew and thick mists of early morning rapidly turning into another day of intense heat. Soon after passing the mouth of the Yana-yacu, a right-bank affluent of the Paranápura, the sharp eyes of our Indians detected the tracks of turtles on a high sand-bar, so we decided to land and hunt for a nest; but it is still early in the season and we were disappointed in our hopes of a clutch of eggs. The turtles had apparently only been prospecting for a desirable site for their nurseries, though the Indians say that a turtle always returns to the same spot to make her nest. The eggs are spherical, a little larger than a golf ball, with a flexible, leathery shell: only the oily yolk is eaten, for the white does not set when cooked. The laying process takes place during the night. The female scoops a deep hole with her flippers, lays her eggs, covers them with sand, and smooths it over to conceal the site of her nest before returning to the water. The enormous number of eggs taken and used for making turtle oil on the Amazonian rivers, and the vast quantities of young killed and eaten, not only by man, but by birds of prey and alligators when they



PAULA WITH MONKEY, UCHIZA



THE VILLAGE BELLE, UCHIZA



CACTUS (*OPUNTIA FLOCCOSA*) IN THE HIGH ANDES



ORCHIDS (*SOBRALIA GLORIOSA*) GROWING BESIDE THE
YANA-YACU RIVER

make their way to the rivers at hatching time, not to mention the adults killed by jaguars when they leave the river to lay their eggs, has greatly depleted the numbers of these creatures, though possibly the collapse of the rubber industry and departure of the rubber-collectors, together with the decline of the Indian population, will permit the river turtles again to increase and multiply, for Man, as always, is the Great Destroyer who upsets the balance of Nature. Bates, so long ago as the middle of the last century, commented on the rise in the price of turtles following the introduction of navigation by steamships on the Amazon and its larger tributaries, stating that, whereas in 1850 a turtle of medium size could be bought for the equivalent of 9*d.*, the cost ten years later of one of the same size had risen to 8*s.* or 9*s.* each. The turtle soup of commerce is made from a marine species, the green turtle (*Chelonia mydas*), which, unlike its freshwater cousins, is almost exclusively herbivorous.

The river's course all day, with endless serpentine bends through the forest, was particularly beautiful, with many small settlements and clearings, where slopes of coarse grass and solitary trees, which light and air had allowed to grow into fine specimens, gave from a distance in certain places an almost park-like effect. The forest, too, at the water's edge was far less dense and forbidding than along the Huallaga, and birds were, if not actually more numerous, more visible than on the banks of the big river.

That night we slept under the usual rough, improvised shelters, not too comfortably, owing to our camp-beds sinking deeply into the very soft sand, and a terrifically heavy dew, which soaked right through the

thatch of *caña brava* and dripped through the mosquito nets on to our beds.

While supper was being cooked, Michael went to wash in the river: he had hardly entered the water before he was surrounded by small *piranhas*. Luckily, he was in up to his knees only and was able to jump out directly he saw them; also there was no blood to incite them to instant attack. I think these particular fish were probably the rarer *Serresatus elongatus*, which is longer and less carp-shaped than its more common relative, though its habits are the same. If Michael had not actually experienced their attentions, we should have found it difficult to believe that creatures usually so timid as fish would have ventured into such shallow water regardless of his movements.

Monday, July 25th

A cooler day, with the sun often veiled by clouds, the air damp and oppressive and, during the afternoon, thunder muttering in the distance. The direction of the river, with its endless twists and turns, varied from hour to hour, but once for a brief spell we saw ahead of us, clad with a green haze of forest, the range of aloof-looking hills over which our way to Moyobama lies. Flocks of lovely emerald green parakeets with indigo-blue wings flew along the river banks, settling a hundred yards or so ahead of us, and then, as our canoe drew near them, rising again with a chatter of protest and a whirr of vivid wings, sped further up the river. Large black and white toucans, a handsome, rather tame kingfisher-like bird, about the size of a

jay, with a brownish-red breast, graceful dippers, severe-looking herons, a lovely little manakin (*Pipra chloromeros*) with a body half dark brown and half white, with a brilliant scarlet head, and many other unfamiliar birds made me regret that our party did not include an ornithologist.

When we landed to let the Indians rest and to eat our midday meal, we discovered that the absence of sun for a few hours to-day had not greatly affected the temperature, for the fiery glow of the sand was so intense that the Indians could hardly stand upon it without first wetting their naked feet, and we could feel the heat of it through the soles of our leather shoes. It made one realize how slowly heat is conducted downwards into the earth in these latitudes, where the mean temperature is only a short distance below the surface, how quickly the upper layer of soil becomes super-heated, and how long, where the air is heavily saturated with moisture, a high temperature of the top soil is preserved.

On our way upstream, the resourceful Stanley, who was in the second canoe with our baggage, had been inspired to purchase at a farmstead we passed some eggs and a bunch of so-called apple bananas, *guineos manzanas*. The word *platano* all through this part of the Montaña is applied only to the large plantain (*Musa paradisiaca*), which is always cooked before being eaten, whereas those which are eaten raw, the fruit of cultivated varieties of *M. Cavendishii* and *M. sapientum*, are called *guineos*.

It would be interesting to know how and where the many varieties of cultivated bananas have arisen, for those in cultivation are always propagated from side

A FORGOTTEN RIVER

shoots springing from an underground tuberous rhizome, with the result that these varieties now produce only abortive seeds. There are, however, certain species of wild bananas, which cannot be eaten because their fruits consist merely of a pea-like pod filled with hard seeds. The proletarian proclivity of these species to reckless breeding suggested that it might be worth while making experiments in cross-pollination in order to raise new varieties of commercial value. These experiments were made on Jamaica plantations, with the result that after several failures the aristocrats of the race were at last induced to abandon the habits of generations of sterility and to set fertile seed after being artificially fertilized with the pollen of the red banana.

We camped that night at a pleasant spot on the river's left bank and were lucky to find a well-built *tambo* with a raised bamboo floor, for we had an hour's heavy rain with distant thunder during the night, the first time when camping out since we left Tingo Maria.

Tuesday, July 26th

The dugouts were loaded early, and we pushed off before 7 a.m., after a perfect night, with a long day ahead of us, for we hoped to sleep at a *tambo* some distance upstream, whence, by starting at sunrise tomorrow, we should arrive at Balsapuerto during the afternoon. The rain during the night had caused a slight rise of the river, which made things easier for the Indians; but, even so, our progress most of the

time was very slow, with the canoe constantly scraping the river bed and bumping into drift, of which there were enormous masses, caught up in the sun-bleached branches of prostrate giants, at times almost blocking the whole river bed and leaving only the narrowest channel through which a canoe could worm a way, forcing us to move every hundred yards or less from one bank to the other.

We ate our midday meal on a spit of sand and shingle sheltered from the sun by an overhanging canopy of green. Just as we were finishing, all the Indians suddenly jumped to their feet and with shouts started running downstream as hard as they could go. They had seen a deer, a small red brocket, swimming across the river from the further bank, and possible venison for supper was, of course, not a chance to be missed. It was exciting to watch the chase, and when the deer reached dry land the Indians were less than 10 yds. away from their quarry; but on dry land that short start was enough, for the little creature leapt up the bank, slipped into the jungle and disappeared from view. Had they been able to reach it before it left the water, venison would undoubtedly have figured on our menu that night.

During the afternoon we left the Paranápura for the Cachi-yacu¹ River, a right-bank affluent which enters the former river just above the settlement of Baradero. Both rivers have about the same volume of water here and the vegetation on the banks of both bears a strong family resemblance to the Huallaga jungle below Uchiza. Three scandent plants are common

¹ Not to be confused with a left-bank tributary of the Ucayali River of the same name, the water of which, according to Raimondi, is sufficiently salt to produce salt by evaporation. *Cachi-yacu* in Quichua means 'river of salt'.

here, too, in many places: a royal-blue *Ipomoea*, a showy canary yellow *Cucurbita* (a very rampant grower), and that dazzling leguminous climber, *Mucuna rostrata*, which at the end of May, in blazing festoons of pea-shaped burnt-orange flowers, delighted our eyes in the valley of the Perene River; it is not difficult to press, but unhappily the flowers always turn black, however quickly they are dried. A tall palm-tree, the Pupunha palm (*Guilielma speciosa*) was often a feature of the river banks near dwellings. The stem, which has circular rows of sharp spines, which make the tree unclimbable even by monkeys, rises to a height of at least 60 ft. The wood is extremely hard and capable of taking a high polish; but it is for its fruits that it is cultivated all over the Amazon Basin, for they have a very high starch content and are eaten in the place of bread, potatoes, or yuca. The Indians of some districts also make an alcoholic drink from it by crushing the fruit in water and allowing the mixture to ferment. I never saw this palm growing wild, and it appears not to fruit at this season—to my great regret, for Spruce wrote to Sir William Hooker about it from the Rio Negro, where, he states, it is indigenous: ‘A spadix of Pupunha, laden with ripe fruit, is one of the most beautiful sights the vegetable world can show: the fruits are of the clearest scarlet in the upper half, passing below into yellow, and at the very base to green.’

During the afternoon there were some showers of short duration, but heavy enough for us to be able to bale water from the dugout when the rain ceased. Even then the sky still had a sombre, leaden look, the air felt charged with electricity, and a constant roll

of thunder came from the mountains, now looking appreciably nearer.

We landed soon after 5 p.m. and broke open the door of an abandoned hut on the river bank and settled in for the night. The place could not have been vacated many weeks, for, although the interior had the dank, unfriendly atmosphere of all abandoned dwellings, it was in good repair, as the jungle had not yet embraced it with enveloping tentacles. A few broken earthenware vessels still lay upon the floor, and, like some *tambos* where we had slept, the interior of the roof was decorated with musty-looking feathers. We hoped that the last owner had not died from plague or pestilence—famine would not have mattered from our point of view—but, in spite of the rank odour of decay, we were glad to be under shelter, for everything pointed to a swiftly approaching storm, and even the presence of rats, their eyes shining brightly in the dusk, as they sat and stared at us from the ledge where the thatch joined the bamboo walls, seemed of small account compared with the advantage of having a roof over our heads. The haste made by the Indians, who usually went about their work in leisurely fashion, to get their night shelters well thatched and snug was a further sign that a storm was coming. Good fortune, however, favoured us again, for it was not until we had finished supper and were completely settled down for the night under blankets on our camp-beds that, at about 8.15, with a prolonged sigh, as the trees all bent, and a sound of rushing waters, the storm broke. Luckily, the tremendous tropical downpour, which sounded less like rain than as if water were being poured from heavenly

buckets, lasted rather less than an hour, for even in that short time the rain soaked right through the well-made thatch which sheltered us and dripped on to our beds. For over an hour before the storm broke a night-bird,¹ with exasperating persistence, repeated a single hoot-like note over and over again until the sheet of falling water reduced it to reluctant silence. Stanley, who came running in with Adolfo to take shelter in our hut from the downpour, tells us that its voice always heralds the approach of rain.

Wednesday, July 27th

The rain had ceased altogether when we rose at 4.30 a.m. after nearly seven hours of peaceful sleep. We started at daybreak, soon after six o'clock, on this our last lap of travel by river. The Cachi-yacu had risen slightly during the night; but the storm had not lasted long enough seriously to affect its volume of water, though even a few inches increased depth were all to our advantage. Lieutenant Maw, in *Passage from the Pacific to the Atlantic*, mentions a tremendous storm on the river towards the end of March, when it rose in a few hours 9-10 ft., and Raimondi also writes of a 'terrible inundation', caused by this river's sudden and unexpected rise, which he experienced later in the year when camping on the Cachi-yacu's² banks *en route*

¹ We discovered later that this 'night-bird' was in point of fact a frog, which we heard 'singing' afterwards on more than one occasion in the Montaña. Locally it was known as the 'summer frog', and rain always followed its vocal efforts.

² Cf. the historian, Herrera, who describes one of the earliest Montaña expeditions in this district, in 1539, led by one Juan de Roxas, being obliged to climb trees during the night to save themselves from drowning when a river suddenly rose and flooded its banks—possibly this same river.

for Balsapuerto, so we are fortunate in being here during the dry season.

During the late afternoon, just before reaching Balsapuerto, we had some slight difficulty in getting the canoe through an elaborate bamboo barrier, built as a fish-trap, which occupied most of the navigable part of the river in a place where the river bed had a perceptible gradient and therefore a fairly strong current. However, the Indians with much resource hacked away with their *machetes* enough of the barrier to allow the canoe to pass, getting into the water up to their waists and guiding it through to a place where they could start using their poles again. About forty minutes later, high up on the Cachi-yacu's left bank, the wooden spire of Balsapuerto's church came into sight.

The little settlement stands on a cliff, perhaps 70 ft. high above the river. The situation is attractive, with its background of forest and mountain, though the village itself is just a long, broad stretch of grass with houses one story high, built of thatch and bamboo, straggling along on either side of it, plus a church, a general store, and the *padre's* house boasting the splendour of a tiled roof. I could not learn the date of Balsapuerto's foundation, but it must be a very ancient settlement, for the Cachi-yacu and Paranápura Rivers are the only natural highway to the Amazon from a very large district, so it is likely that it was always the site of a village from earliest days, here where the river becomes navigable for canoes. Its population is now under 300 inhabitants. Probably a century—even two centuries—ago, it was of greater importance and more populous than to-day, just as

the banks of the Amazon were much more thickly inhabited at the beginning of the eighteenth century than at the present time. As an example of this decline of Amazonia, it is interesting to recall that the distinguished Jesuit missionary and explorer, Father Samuel Fritz (incidentally probably the first European to navigate the Cachi-yacu River) mentions at that time no less than forty-one Indian townlets of some size in his *reduction*¹ alone, where to-day most have disappeared or only a few huts remain to mark the site of others.

In spite of Balsapuerto's being *en fête*, with its main street decorated with arches of palm leaves adorned with garish paper streamers and lanterns in honour of to-morrow's celebration of Peruvian Independence, we had no difficulty in finding Señor Mesa, proprietor of Balsapuerto's only store and canteen, and *impresario* of the *cargueros* Indians, who will carry our baggage through the jungle for the next stage of the journey. The trail from here to Moyobamba is so arduous most of the way that even mules cannot do it, and all merchandise has to be transported on the backs of Indians. After a brief and friendly discussion, we found ourselves tenants of an unfurnished house, which Señor Mesa lets to travellers, with three rooms and a backyard with a shed for cooking and a rude kind of loggia for having our meals, for which we pay a rent equivalent to 2*d.* a day. It is not exactly a luxury flat or even a labour-saving bungalow, but for 2*d.* a day it would be churlish to complain about rats and bats

¹ The term *reduction* used in this sense was applied by the Jesuit Fathers in South America to districts administered by them where they had converted and baptized the Indians, although, strictly, the term only means 'reduced from savagery to civilization', and is not necessarily connected with any religious organization.

in the ceiling, apertures in the split bamboo walls, apparently designed expressly for inquisitive black eyes, absence of light and water, or mud floors, which make it necessary to be extra careful here, a precaution I have taken everywhere since leaving Lima, never to put a bare foot to the ground on account of the presence of 'jiggers', to use the name by which *Dermaphilus* or *Sarcopsylla penetrans* is most commonly known. These insects are sand-fleas, of a dirty buff colour, about the same size as the common flea, and move by hopping. They have a preference for dusty, sandy places, and Balsapuerto, with its half-caste population and large number of Indians here for the *fiesta*, who spend most of their time lolling in the street outside our dwelling, makes extra care advisable. The name 'jigger' is a corruption of the Spanish word *chique*. This South-American insect, which multiplies rapidly where conditions are favourable, has spread all through Africa, brought there originally from the New World, probably by the old slave-ships, just as the yellow-fever germ was taken to South America from Africa in slave-trading days. The fertilized female of the species lives parasitically on domestic animals, especially on pigs, even on bats, squirrels, mice, and rats, and on man, selecting for preference on the human body a place under a toe-nail and burying herself beneath the skin with her hinder part just below the surface. At first only slight irritation is noticeable; but swelling and irritation increase as the eggs in the insect's abdomen develop and swell. These are expelled through the skin of the host, one by one, as they ripen, and fall to the ground, becoming maggot-like larvae and ultimately a new generation of

sand-fleas. Jiggers can be easily dug out with a needle, though it needs expert fingers to extract the creature whole without breaking the egg-bag. Neglect to deal promptly with the parasite can lead to a badly infected place; after extraction, the hole should always be thoroughly washed with a strong disinfectant.

After we had settled in and got our camp-beds set up, we strolled up the one and only street to see a little life. Apparently the eve of Independence Day is celebrated with even greater splendour than the day itself, with a band consisting of two drums and a fife, and a procession of about twenty little Indian boys and the same number of girls of ages ranging from four to fourteen, rather prettily dressed for the occasion in clean white dresses trimmed with cornflower blue, and white trousers and jackets with blue cuffs and collars, and even ties. After a procession round the square under the command of a male and female teacher, the girls posturing with a certain liveliness, the boys plodding along with an expression of complete boredom, they were all lined up to listen to a mechanically impassioned address from the school-teacher, punctuated by windmill gestures and, when given their cue, cries of '*Viva Peru! Viva! Viva!*' from the audience. The discourse featured redundantly Liberty, Independence, Patriotism, Glory, Justice, and Progress, though Progress in Balsapuerto has not yet achieved even an earth-closet. After the schoolmaster had finished with a fine flourish of a peroration, the schoolmistress got going and was at length safely delivered of a long-winded variation on some unoriginal themes: Glory! Liberty! Independence! Then the star-turns among the pupils, fortified

by several weeks 'coaching', were eloquent on Independence, Liberty, and Glory. Every one enjoyed himself, especially—as at amateur theatricals at home—the relatives and friends of the performers, which at Balsapuerto meant practically the whole community. The festivities ended after dark with the indefatigable children staggering round in endlessly repetitive evolutions carrying lighted lanterns, singing—which even the greatest indulgence could only call 'caterwauling'—and, in a place where every house except the *padre's* is thatched, the dangerous amusement of sending up fire balloons.

We had a rather disturbed night owing to the sounds of revelry with noisy drum-and-fife accompaniment lasting into the small hours of the morning, but then Independence Day, like Christmas, comes but once a year.

Thursday, July 28th

After ten o'clock Mass, for which the little church was so crowded that a large overflow of the congregation had to stand on the grass outside and hear Mass through the church's open door, there was a repetition of yesterday's patriotic demonstrations, and in the afternoon sports for the children, races, tug-of-war, &c., and dancing to an antique gramophone. Whereas, fifty years ago, we might have had the interest of hearing some primitive local music, now we were treated to a strident rendering, on a cracked disk, of 'When the Guards are on Parade'. It was rather depressing to find that potted music had reached even Balsapuerto, though I was not really surprised. In Lima standardized mechanical entertainment has killed

the theatre, and the blight of the cinema even lay heavily on the pleasant little Cordillera town of Tarma, with garish posters depicting dehumanized Hollywood heroes and heroines featured in pictures with alluring titles like '*Amor Que Mata*' ('The Love which Kills') or '*Almas Sangrientas*' ('Bleeding Souls').

Balsapuerto was crowded all day—that is, crowded as crowds are reckoned here—with Indians from the district, attracted by Independence Day celebrations. These Indians belong to the Chayavita group, though locally they are usually referred to as the Indians of the Balsapuerto tribes. They are mostly short, powerfully built men with deep chests, broad shoulders, and well-developed stomach muscles, and a Mongolian type of features predominates among them. They have not the grace and air of savage breeding common among the so-called Chuncho Indians of the Perené district, but, compared with the mongrel population of Yurimaguas, they have a native distinction of their own. The men wore white shirts with long sleeves and white or black rather closely fitting trousers ending half-way between the knee and ankle. Their hair, coarse as a horse's tail in texture and jet black, was cut in a severe 'bob', with a long, straight fringe, like a Japanese doll, covering the greater part of the forehead. Their faces were painted in geometrical patterns, sometimes with a brownish red dye, made probably from the fruit of *Bixa Orellana*,¹ sometimes a dirty purple from another

¹ *Bixa Orellana*, from the endosperm of the seeds of which the dye *achiote* or *annatto* is made, was for many years a monotypic genus, but there are now two species grouped under Bixaceae. *B. Orellana* was, where I saw it, a handsome shrub growing up to 15 ft. high with large entire leaves and terminal panicles of carmoisie-coloured flowers about the size of a shilling. According to the Report of the Commission sent to explore the Ucayali and Madre de Dios regions, the Indians there use this dye for painting their faces, and bachelors of the tribes employ distinctive patterns. *Achiote* is also used for colouring cheese and butter, and in cooking.

vegetable dye, or even traced with an indelible pencil purchased at the local store: their lips and hands were usually stained purple and they often wore necklaces and bracelets of yellow and scarlet feathers, strings of glass beads or of the bright scarlet seeds tipped with black of *Erythrina velutina* (Leguminosae), and sometimes round their necks cheap mouth-organs and knotted cords. These cords, which, so far as I could learn, served no utilitarian purpose and were certainly not decorative nor of the bright colours which Indians love, suggested to me the possibility of a very remote origin. The inhabitants of the old Inca Empire, to whom reading and writing were unknown, invented an elaborate system of different coloured knots, known as *quipus* (the Quichua word for 'knot') for making arithmetical calculations and keeping simple records. The system was very widely spread, for each district had its *quipucamayus* (keepers of the *quipu* records), whose reports in knot form, which were forwarded annually to the capital and carefully preserved, constituted something like national archives.

Without jumping to rash conclusions, it would at least seem permissible to suggest, in the absence of any other explanation of their origin, that these knotted cords, which the Indians of the Montaña wear to-day, are the degenerate descendants of the old Inca *quipus*, now worn as charms or traditionally, after their original use has ceased to be even a legend. Among the neatly, but rather dingily, dressed Indians, a local chief quite outshone his fellows with a resplendent head-dress composed of pale yellow and bright orange feathers with wristbands to match. The women of the tribes were an ill-favoured lot, made prematurely

old by a life of toil and child-bearing. They have long, oily black hair, cut in a straight fringe on their foreheads and their faces painted in the same colours as the men. They wear dresses, reaching to just below the knee, usually of dark indigo blue or cinnamon brown: over these they drape a blanket-like shawl, black or dark blue, with sometimes a light edging. Most of them carried children, and one had a stark naked, pot-bellied male offspring, about three years old, stained dark purple from head to foot, making him look exactly as if he had been bathed in a vat of must at vintage time. We were told, apart from its decorative effect, that it was done to protect him from insect bites. The mother appeared to think our staring a breach of manners or perhaps she wanted the Gringos to see that she knew the *usages du monde*, for she called her golliwog to her and hastily arrayed him in a pair of long khaki trousers with broad braces and a minute Air Force forage-cap, so that, with his purple face and torso, red mouth, and accentuated whites of eyes, he looked exactly like a music-hall comedian or ventriloquist's doll. Michael took photographs of several groups and rewarded them for posing for him with drinks of *garapa*, a pleasant though rather too sweet beverage, here made from slightly fermented sugarcane juice, of low alcoholic content.

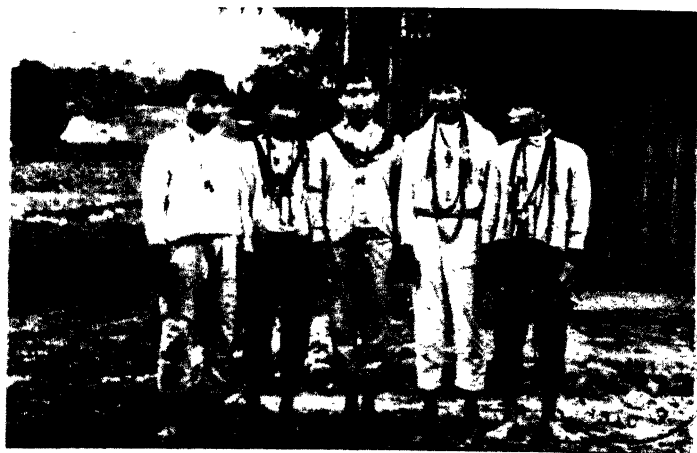
During the afternoon I had an interesting conversation with the *Padre*, who is a Basque belonging to the Pasionista Mission. He has spent eight years in this isolated corner of Peru, and I think he was glad to meet some one who could talk of his beloved Spain, especially as, knowing the inside history of Red activities there in the three years before the outbreak



EARLY MORNING ON THE PARANÁPURA RIVER



CARGUERO INDIANS CROSSING THE FORD OF
PUMA-YACU RIVER



INDIANS OF THE BALSAPUERTO TRIBES



CHUNCHO INDIANS FROM THE PERENÉ RIVER. THE CHIEF
IS WEARING THE HIGH HEAD-DRESS

of hostilities, I entirely understand his point of view about the Civil War and share his hopes for a victory of the Franco army. Padre Roman told me that if ever I were in Balsapuerto late in August, he would be glad if I could accompany him on his annual mission to the Aguarunas Indians, who live some days' march away in the heart of the forest. He told me that these Indians are very friendly to him and always bring their children to be baptized, though they refuse to be married, because they consider four wives a minimum ration. They would be quite agreeable to his performing four marriage ceremonies; but, as Padre Roman said, he cannot, with the best will in the world, oblige them in that respect, and monogamous marriage as a sacrament is something they could not possibly be expected to understand, especially as, according to him, their domestic arrangements appear to work quite satisfactorily, and, unlikely though it may seem, their four wives (the chiefs have more) live together in perfect harmony.

As it is about six weeks since I last had a hair-cut, Michael got going in our back-yard in the evening with nail-scissors. Unhappily, my scanty hair now only needs what hairdressers call 'trimming', and as what is left is nearly all at the back of my head, I could not criticize Michael's efforts, though he tells me he has made an excellent job of it. My offer to cut his hair was turned down, for he admittedly had not enough confidence in me in the role of Figaro to let me practise on him.

In the evening we took leave of the Indians who poled us up the rivers here from Yurimaguas, as they are returning home to-morrow. The cost of the hire

of the two canoes, men's wages, tips, and commissions, was almost exactly £6.

Friday, July 29th

Balsapuerto is too surrounded by dense forest for collecting to be easy except in the immediate vicinity of the settlement, but, among other plants, I found a handsome bright violet terrestrial orchid, which to me looks indistinguishable from *Bletia catenulata*, growing conspicuously on the edge of the cliff above the river, *Tococa gonoptera*,¹ and *Miconia rufescens*, both Melastomads, the former a very beautiful shrubby tree with characteristic longitudinally-veined leaves nearly a foot long, the stems thickly covered with chestnut-coloured hairs, with pale pink flowers, the latter with inconspicuous white flowers and small ovate leaves looking as if they were cut out of green Morocco leather. *Cephaelis tomentosa*, a very widely distributed Rubiad with vivid scarlet bracts followed by electric-blue seeds, growing in dense shade, looks exactly like an artificial lacquer motif for a woman's hat or buttonhole. Two Bignoniaceae were also common, *Arrabidea platyphylla*, which was flowering in profusion on the outskirts of Yurimaguas, and scandent *Pyrostegia dichotoma*, with terminal branched panicles of narrow, rich, apricot-coloured tubular flowers, growing luxuriantly in full exposure, once in very happy juxtaposition with a *Cochlospermum* (Sp.?) tree, making a fine display of its lemon-coloured

¹ *Tococa gonoptera* is also of interest for being a myrmecophilous plant, which has developed utricles at the base of its leaves, used by ants for habitations.

blossoms. I also collected some Eupatoriums, *Mikania Mathensisii* (Compositae), a small tree with panicles of cream-coloured flowers, and *Aphelandra jacobinioides* (Acanthaceae), a tall shrub with scentless, canary-yellow flowers.

On my way back I stopped at the farm of a kindly old couple, who asked me in to sit down and rest. Good relations were quickly established by the discovery that I had met their niece at Yurimaguas. We had a long talk about local conditions, and they seemed very depressed, repeating the tale we have heard so often about the disastrous fall in the price of agricultural produce and the decay of the Montaña following the collapse of the rubber boom. They said that the weekly aviation service from Iquitos to Lima had made Balsapuerto even more isolated than in the past, when it was a usual halt for travellers making the long trans-Andean journey to the Pacific coast. Indians are now practically the only customers of Mesa's little store and such produce as is grown and stock as is raised here is almost all for local consumption.

In the afternoon the *Padre* took me to see his house and derelict-looking little *jardin de curé*. We drank coffee together and had a very interesting conversation about the past missionary activities of the Church in South America in the sixteenth, seventeenth, and eighteenth centuries, particularly in reference to the monumental achievements of the Jesuit Fathers. The more one reads and hears of their stupendous work in almost every department of human activity, the more fantastically absurd and unjust does it seem that a religious Order with its outstanding record in every

part of the world should still be a kind of Aunt Sally¹ for prejudiced Protestant coconuts. Though even invincible ignorance, one would think, might be silent before the great story of the Paraguayan *reductions*,² founded by the Jesuits under the direct encouragement of Philip III. This Indian state, where the primitive inhabitants enjoyed a peace and well-being such as they had probably never known before and certainly never since, comprised territory now forming part of Brazil, Chile, Argentina, Bolivia, Uruguay, and Paraguay, and lasted over a century and a half, from 1608 until the expulsion of the Order in 1768.

Not the least romantic part of one of the most fascinating stories in the whole history of colonization is the fact that the missionary Fathers established their first contact with these primitive savages through the latter's natural love for music. Like Orpheus with his lute, the Fathers sang and played their way up unknown rivers, through the heart of virgin forest, luring by sweet music the melody-loving Indian from the depths of his jungle fastness. Once contact was established and the Indians realized that they had nothing to fear from the Fathers, the major difficulty had been overcome. Henceforth, community singing and the playing of instruments, for which the Indians showed a remarkable and unexpected aptitude, became a kind of civilizing influence round which the tribes grouped themselves. It is no exaggeration to say that

¹ Cf. Robert Louis Stevenson, in reference to missionary work in California, on the sorry figure cut by Anglo-Saxon Protestant missions compared with the work done by the Jesuit Fathers.

² Those interested can find much curious information on the subject in vol. ii of René Fülöp-Miller's *Les Jésuites et le Secret de leur Puissance*, and in R. B. Cunninghame Graham's *A Vanished Arcadia*.

the life of the community was set to music: different airs and rhythms played on various instruments heralded and inspired each daily task, and the Fathers soon discovered that many of the boys and girls had a natural talent for learning rapidly to play European string and wood-wind instruments. So successful were the Jesuit Fathers in their methods that in 1690 the Archbishop of La Plata wrote to the King of Spain: 'The Jesuits have accomplished in a short time with devotion and zeal as their only weapons what in the past has only been won by numerous armies and the expenditure of vast sums of money. They convert enemies into friends and turn the wildest and most rebellious tribes into Your Majesty's devoted subjects.'

But the Order did not confine its activities to apostolic wanderings and preaching the Gospel in the Montaña. In Lima, Cuzco, and other Peruvian towns, the civilizing influence of the Jesuits founded colleges where Indians could receive instruction and education. They were also enthusiastic collectors of all records they could discover which threw light on the vanished civilization of the Inca Empire. The printing-press of their Lima College published books and grammars in Quichua, and in Brazil that great missionary and traveller, Father Anchieta, after years of wandering among the forest tribes, studying their multiple dialects, conceived the notion of creating a language composed of a fusion of these dialects with Portuguese—the *Lingoa Geral*, as it is called to this day.

I could have spent a long evening listening to the intelligent Basque *Padre* with his wide experience of the Montaña and knowledge of the people gained during eight years of intimate contact, but as we are

leaving for Moyobamba to-morrow about noon—a six or seven days' trek on foot through the jungle—there were the usual odds and ends of things to be done and eleventh-hour arrangements to be made.

This coming week will probably be the hardest of the whole expedition, but also the most interesting—a week in the heart of that primeval forest of which up to the present we have only seen the fringe from raft or canoe.

Saturday, July 30th

Rose early and changed the pressing-paper of all the plants I collected here, in order to start with everything as dry as possible, for during the next week there will probably be but little time or opportunity for doing anything but put into the presses whatever I can collect *en route*. All our kit is in waterproof bags or wrapped in waterproof coverings, and, although there is certain to be some rain, as we are now in the middle of the dry season, we are justified in hoping for a fair-weather balance in our favour.

In addition to Stanley, our invaluable cook, and Adolfo, the little Yurimaguas boy, who are going with us as far as Moyobamba, eleven Indians have been engaged as porters to carry our belongings, accompanied by two of their womenfolk (their chief's wife and young sister-in-law, we are told) and a small boy, making the largest party of *cargueros*, as these Indian porters are called, that has set out from Balsapuerto for many months. All the Indians carry long staves of dark wood about the height of Alpine stocks, carved in simple, well-balanced designs, and their

faces were freshly made-up in preparation for the journey. They look clean—very different from the Indians of the Cordilleras—but they have a curious, strong, acrid smell, rather like the Oriental department of a cheap store. They seem a smiling and good-humoured crowd, made happy by the gift of a few cigarettes and delighted when Michael gave them a bottle of *cañasa* as a reward for posing for their photographs.

To-day was only a short and easy one—a five hours' march to a farmstead on the left bank of the Yanayacu, where we stayed the night, though quite stiff enough a walk after the lazy month we have spent travelling by raft and dugout. When we saw the trail, broken away in places, with sometimes a sharp, difficult corner with branches of trees interlocked just above the height of a man's head, it seemed almost incredible that the *cargueros* would be able to pass carrying their burdens, some of them over 100 lb. in weight and of awkward shape and size. These are kept in place on the men's backs by broad, coarsely woven bands, which go across the forehead and round their shoulders.

We had spent three happy days at Balsapuerto, and were sorry to say good-bye to its simple, kindly inhabitants. We set out at noon, seen off by the *Padre*, one of the Civil Guards, Mesa (*impresario* of the *cargueros* Indians) and his pleasant-looking wife, who accompanied us across the little stretch of level grazing ground outside the settlement and took leave of us after we had gone a short distance into the forest. We said good-bye with many expressions of civility and goodwill, and the *Padre's* final words—words which

it will always give us pleasure to recall—were ‘We all hope that you will return to us again. Even the Indians say that they like you better than any Gringos who have ever come to Balsapuerto’. I think he meant what he said, and probably the chief reason for our social success with the Indians was that we found them rather *simpaticos* in their strange way, and they instinctively felt that we liked them.

There is no gradual transition from semi-cultivation and clearing to jungle—just an abrupt cessation of grazing-ground, a plunge into tropical vegetation, a sudden, steep descent of the narrow trail, a rivulet 12 ft. wide now only a little more than ankle-deep to ford, and then the green twilight of the Amazonian forest. For the next five hours the trail, with a general upward tendency, seemed to follow an entirely fantastic course, with steep drops and equally steep ascents, capricious change of direction, serpentine bends, a constant inconstancy, which included a stretch along a ridge like a knife-edge with the sound of a rushing river on either side below. Any view there might have been was nearly always obscured by dense growth on all sides, which made it impossible to see more than a few yards ahead.

Our pleasure was slightly marred, due to inexperience of this kind of travel, by concern for the Indians, naked to the waist, streaming with sweat and bowed under the weight of our kit. Although we had often read of their immense capacity for carrying heavy burdens long distances, it has to be seen in combination with the difficulties of the trail to appreciate fully a feat compared with which a British soldier’s stiffest march with a heavy pack is child’s play. In addition

to our kit, the Indians carry their own food and small belongings, tied on to the major burdens: even the little boy and the chief's small sister-in-law carried packs which could not each have weighed less than 25 lb. One of the Indians had a rudely-fashioned Pan-pipe dangling from his neck, upon which he played at intervals a plaintive, interrogative little musical phrase, which cheered us by making us realize that his burden could not be excessive if he could spare enough breath for even a minor musical effort.

Towards evening the trail suddenly descended, the forest opened out, and at about 5 p.m. we found ourselves on a wide clearing, Cachipuerto, where a small farmstead stands in complete isolation on the left bank of the Yana-yacu River.

The owner of the farm, a mournful-looking individual with a lethargic wife, makes a little money by ferrying travellers across the river. He told us the same dismal tale of the economic slump of Peru's eastern provinces, and said that, compared with fifteen or twenty years ago, the old Moyobamba trans-Andean trade route is now almost deserted.

The Indians camped by the river and our beds were put up in a large barn-like room, in corners of which a number of people dosed down for the night, including a half-caste *en route* for Yurimaguas with his Indian wife or mistress. However, we did not sleep too badly, in spite of being bitten by fleas and rather bored by the frank curiosity of our hostess, who, like the children of Juanjui, seemed to find the contents of our baggage and our dressing and shaving of absorbing interest.

Sunday, July 31st

We rose at daybreak, packed up, breakfasted, and left Cachipuerto, the last habitation we shall see for five days, just before 8 a.m. Our host ferried us across the river in a small dugout and the trail plunged instantly into the jungle, bringing us to a right-bank tributary of the Yana-yacu, the Escalera-yacu. From that point, the trail more or less follows that river's course, and for the next two hours we made our way laboriously up the Escalera-yacu, fording it nine times, as the trail moved from bank to bank to take short cuts or avoid natural obstacles in its way. Being the dry season, there was, luckily for our comfort, relatively little water in the river, so that by picking our way carefully at the fords from stone to stone and boulder to boulder the water was hardly ever more than knee deep. At about 10 a.m. we forded the Escalera-yacu for the last time at the foot of the Escalera de Jesus where the arduous part of the day's march began. It was at this point where Lieutenant Maw, who did this same journey in a contrary direction in January, 1828, describes 'a ladder made of two tall palm trees, with twenty-six cross pieces as steps', which travellers had to descend to reach the river. It must have been a trying place to go down, for the sailor adds: 'Accustomed as I have been to going aloft, this staircase descent made the joints of my knees crack, every bone in my skin ache, and the perspiration run from every pore.' H. J. Mozans, who passed that way in 1910, also speaks of the Escalera, which he says 'takes its name from a primitive ladder which is

nothing more than a long, notched trunk of a tree, by which the traveller lowers himself from a massive ledge of perpendicular rock'. Presumably the trail up the mountain-side now starts from a different place, for we had no notched tree-trunk or palm-tree ladder to climb, although the almost perpendicular, zigzag ascent over rocks of red sandstone and interlaced roots of trees beneath a blazing tropical sun was quite strenuous enough to cause 'perspiration to run from every pore', even if it did not 'make every bone in our skins ache'. The sides of the trail in some places were ablaze with masses of a *Tibouchina* (*Melastomataceae*), a tall shrub covered with a wealth of royal purple flowers, and arching branches of a shrubby tree, *Mikania* (*Compositae*) with flowers the colour of *Ceanothus rigidus*. After nearly three hours of strenuous collar work, we halted at a more or less level spot to rest the Indians, whose amazing strength and endurance had been put to a pretty severe test, and ate our midday meal.

Although the vegetation on either side of the trail was less dense than yesterday, it was usually thick enough to obscure the view, which, at those infrequent places where eye could command a distant prospect, was of breath-taking beauty. Immediately below us was a vertiginous drop to where the Yana-yacu pushes its circuitous way through the last foothills of the Andes of Maynas. Here at least the eye could still rejoice in variation of contour, with now and again in the foreground a forest monarch superbly standing head and shoulders above his fellows and even at times, where the blossom-laden branches had fought a way to the light, a rare tree-top ablaze with orange

or scarlet flame. But the great ranges' effort is almost spent, as the outpost hills break into smaller and smaller waves against the rampart of the Amazonian forest.¹ Mountains dwindle into vague irregularities and inconspicuous undulations, with outlines becoming more and more insubstantial, until, in a backwash of shadowy ebb and flow, the last memory of the giant Cordilleras melts into an infinite horizon of misty green, an unbroken forest ocean through which the great rivers of a continent thread their way to the Atlantic.

This vast area—literally thousands of miles—of unexplored primeval forest inspires fantastic speculations about the mysteries its intricate brooding twilight may still conceal, not only new insects, fishes, plants, and birds, of which there must still be endless undiscovered species, but whether the last descendants of the giant sloth or dinosaur may not linger on in the secret recesses of those uncharted depths of swamp and jungle, where the white man has never yet set foot, that undiscovered country where winter never comes and an eternal summer reigns upon the tree-tops.

We rested for nearly two hours, and started off again about 1.30 p.m. on the last stage of the long pull up to to-night's camping-ground. The afternoon sun was scorching in its intensity and a metallic sky, with distant banks of leaden cloud and the breathless, heat-sodden air, seemed to presage a storm before nightfall.

At two or three places we were interested in seeing the letters 'V.V.R.' cut on rocks in letters about 6 in.

¹ The forest region of Peru covers more than half the total area of the Republic or not much less, it is estimated, than some 200 million acres.

high. Stanley, at our request, questioned the Indians, who are familiar with the trail, but none of them knew why the letters had been cut or what they meant. Had the cutting been more weather-worn, we might almost have been justified in assuming that in the past some Englishman had been moved by excessive patriotism to record his loyalty in abbreviated form—*Viva Victoria Regina*! Curiously enough, Herndon relates in his *Valley of the Amazon* that in 1851 he observed, when navigating the Huallaga, the letters 'V.R.' cut on a rock near the Pongo de Aguirre, which he imagined to be the work of an Englishman, belonging to an American circus company—a disastrous venture which had passed through that district a few months earlier.

Just before 5 p.m., about half an hour's walk from the top of the ascent, we reached our camping-ground, a dank little glade in the heart of the jungle with a dirty pool full of decaying vegetation as the only water supply for making tea and cooking the evening meal. There was a night shelter in the form of a rude *tambo*, for which we were grateful, for the incessant muttering of distant thunder and the haste with which the Indians cut poles and branches to build themselves shelters all pointed to the rapid approach of dirty weather. The Indians, who, with the exception of two brothers, belong to one family or group, all sleep in the closest proximity, like a herd of animals; but etiquette decrees that the two brothers, who appear to be on excellent terms with the rest of the party, should sleep together at a little distance from the main group.

Our incredibly good fortune in the weather was

still in the ascendant. The storm circled sullenly round the mountain-tops, but did not break. We ate a rather muddy supper and drank some rather muddy tea, and soon afterwards, tired out by a strenuous day, we were both fast asleep on our camp-beds, undisturbed by the Indians chattering round their camp-fire, the muttering of distant thunder, or the patter of tentative rain upon the leaves.

Monday, August 1st

'A happy Bank Holiday!' was Michael's morning greeting as, soon after daybreak, we pulled on our wet, muddy boots and got into clothes still damp from the sweat of yesterday. The morning falsified our hopes, for the day broke grey and sullen, with the storm, now perceptibly nearer, still growling and straining on the leash. At 7 a.m., luckily just as we had breakfasted, packed up and were ready to start, it broke, and for the next four hours there was a steady downpour, accompanied by a bombardment of thunderclaps. The heavy rain made us a little anxious, for our camping-ground was only an easy three hours' walk from the dangerous ford of Puma-yacu, where a rise of only 1 ft. in depth would make the crossing precarious and a rise of 2 ft. impossible. During the wet season, the rapid and tremendous rise of tropical rivers in a region where bridges are non-existent is one of the perils of travel in the Montaña, for the traveller risks being trapped between two rivers, unable to go backwards or forwards, though, provided he has a good store of provisions with him, the

situation is one of acute discomfort rather than danger, for when rain ceases rivers here fall as rapidly as they overflow. Hence that familiar watchword of Montaña travel: '*Ni rio adelante, ni cargo atras*', which can be roughly translated, 'Always cross the river just ahead of you before camping and never be separated from your baggage'.

We reached the top of the ascent, known as Limon, in a short hour, but it was a tiring, steep pull up, with the going very rough and heavy, and the torrential rain and weight of a mackintosh *poncho* did not make walking any easier. The view from Limon, which should have been the finest of all, was, unfortunately, completely veiled by curtains of mist and heavy banks of cloud.

From that point down to a derelict-looking shed on one side of the trail, known by the imposing name of the Tambo Grande (incidentally it is so low that a man cannot even stand upright under its thatch), the going is very easy. We arrived at the *tambo* soon after 9 a.m. and decided to shelter and rest here for a little and when we left an hour later the worst of the storm was over. From the *tambo* onwards the trail gradually narrows, almost crushed out of existence by the enveloping forest, becoming the merest thread of golden rock and stones, now a running rivulet after the recent downpour. The sun began to struggle through the mists, every leaf and bough sparkled and dripped with moisture and, although the rain had almost ceased, we were soon wet through from brushing against invading branches. The descent became more and more precipitous, the jungle pressing on us closer and closer, until at a place where the

branches meeting overhead almost made a tunnel of green, we were suddenly aware of the roar of falling water, which grew louder and louder with every downward twist of the trail. At length, with dramatic suddenness, our path ended abruptly on the right bank of the most lovely stretch of river I have ever seen, and we found ourselves, almost without warning, standing on the edge of the ford of Puma-yacu. The Puma-yacu, which is a right-bank affluent of the Cachi-yacu, is about 20 yds. across here at its broadest point. For a distance of about 100 yds. above the fall to where it makes a sudden bend and vanishes mysteriously in the depths of the forest, the river is an enchanting stretch of grey boulders worn smooth by centuries of running water, dancing eddies and limpid pools, fringed by curtains of leafy forest with epiphyte-laden branches bending to the river's brink and parabolas of giant ferns now sparkling in the sun's rays with diadems of crystal. Opposite the spot where the trail ends, the river forms a great dark pool, too deep to ford, round which the foam-flecked water eddies and swirls as though hesitating before making the great plunge into the valley below. The downstream rim of the pool is a horseshoe-shaped ledge of rock about 2 ft. wide, over which the water pours. This ledge of rock is the ford by which the river is crossed. Immediately below the rim of the pool, the water races down a not quite perpendicular surface of smooth, water-worn rock, perhaps 40 yds. in length; then, with a roar, it breaks suddenly into a fighting torrent, forces a violent way at still dizzier angles through the ramparts of granite that would impede its course, and falls some 100 ft. into the valley below, where it comes

to rest at the foot of a great austere-looking cliff, propped up at its base by giant boulders torn from the mountain-side.

A few years ago a bridge was built to enable travellers to cross the ford in safety, but a big rise of the river completely destroyed it and it has never been rebuilt. In its place an iron chain fixed in staples was stretched from bank to bank, but it, too, was torn up by the ruthless river and washed away at flood-time. Knowing the possible risks of the ford, we had brought a strong coil of rope with us, but Fortune favoured us again. There had obviously been no heavy down-pour further upstream, and the rain of the past four hours had not been sufficient to cause any appreciable rise of the river. Michael and I were well ahead of the heavily laden Indians, so, as the water was only knee-deep, we decided not to wait for their arrival, and crossed together, facing upstream, walking sideways, I with a hand on his shoulder. Even so, the slippery surface of the rock and the drag from the water racing over its edge, combined with the knowledge that a single false step would spell disaster, made us glad when we found ourselves safely on the Puma-yacu's left bank.

Lieutenant Maw gives an interesting account of crossing this place, which was obviously exactly the same over a century ago as it is to-day. After describing how a young Indian girl of their party was almost swept away by the current, he writes: 'After crossing, we stopped to shake off the wet, and re-adjust the cargoes; and, in the mean time, Mr. Hinde and Valera came up with the remainder of the party. Coming to the place where the girl had nearly been lost, Mr. Hinde

fell: fortunately, he threw himself up the stream, and Valera, who was close behind, gave an additional proof of his enterprise and activity, by saving him. After all were across, we were told that the name of the place is 'Pumi Yaco' [*sic*], tigre water, and that one of the party had seen a deer killed in attempting to pass.'

Less than half an hour after we had crossed, the Indians arrived and, as the light by that time was excellent, Michael took what should be some interesting photographs of them crossing the ford with their burdens. I collected a few specimens, including *Baccharis articulata* (Compositae), with minute white flowers, an unusual small, scarlet-flowered Bromeliad, *Centropogon sylvaticus* (Campanulaceae), a shrub with dark crimson salvia-like flowers, and an attractive little dwarf Cuphea with pale lilac flowers, *C. tarapotensis* (Lythraceae). We ate our lunch on the bank of the river and started off again about 12.30, plunging once more into the dim forest. After going for 200 or 300 yds., I had the joy of seeing for the first time in its native haunts that 'desirable stove-plant', the so-called Eucharis Lily (*Eucharis grandiflora* or *E. Amazonica*, as it is usually known to gardeners), a lovely group growing in dense shade, with chaste, white petals and exquisitely modelled pistache-green cups, the only flowers visible in the surrounding wilderness of green.

The afternoon's walk was a strenuous one, at first ploughing our way over the heavy muddy trail, which at length brought us out on the banks of a lovely little river, the Chugu-yacu, which we had to ford eleven times. The water here was never more than barely

knee-high and the going along its bed was easy and delightful, the singing of birds and the tempered warmth of the late afternoon sun giving this remote corner of the Peruvian Montaña a peace and charm that made us want to linger and savour its exquisite aloofness. After fording the river for the eleventh time, the trail again dived into the forest, bringing us finally to the banks of the Machu-yacu, a more imposing river (some 40 yds. wide) which we had to ford twice. The second time, just opposite the *tambo* where we were going to camp, the water reached the tops of our thighs: it was a perfectly easy place to ford, although it was a bore getting wet through and having to sit and wait for the Indians, who arrived about an hour later, apparently none the worse for their gruelling day, for they put down their loads and jumped into the water, where they swam and disported themselves like otters, chattering and laughing in their curious, high-pitched, girlish giggle, which turned into delighted shouts of merriment when one of their number missed his footing and rolled down the bank into the river.

Tuesday, August 2nd

We were up at daybreak and started off just before 7 a.m. in perfect weather, the air fresh and cool after yesterday's storm. We forded the river twice again: at the second place, where the water was rather deep and the current swift, quantities of a long-stemmed, violet-coloured orchid were growing high up out of reach on the sides of a nearly perpendicular cliff, the

same species, I think (*Bletia catenulata*), which I had found on the Perene and at Balsapuerto.

In the early afternoon I happened to say to Michael, as we were following the trail along the right bank of the Machu-yacu, 'I do wish you would find me a really handsome orchid: I'm so bored with all these little Epidendrums'—ungratefully enough, for among the some 130 species known which are native to Peru, many are of lovely colour and habit. I had hardly made the remark before Michael exclaimed with excitement, 'Look! Some one must have put it there!'—regardless of the fact that there was nobody within 100 miles to put anything anywhere. There, lying on the trail at our feet, was a large, showy orchid, looking exactly as if it had dropped from a nest of silver fox on the shoulder of an expensive film-star. A brief search revealed, growing up through a thick shrub on 10- to 12-ft. stems, *Sobralia gloriosa*, from which the fading blossom had fallen. It is a lovely thing, with large white flowers flushed with the faintest hint of lilac, the lip deeply fringed and striped with bright violet, and acuminate, long, ribbed leaves. From here for about a mile it grew in many places on both banks of the river, usually on stems 4 to 7 ft. high, fully meriting its proud appellation of '*gloriosa*', which, as a rule, is as difficult for a flower to justify as for a woman to live up to the stately name of Marie Thérèse.

We forded the river two or three times again at short intervals, the last time bringing us to a little *tambo* nestling in a hollow on the river's right bank, surrounded on every side by steep, densely wooded hills. Here we decided to camp, for, although it was

only 2.30 p.m., yesterday had been a hard day for the Indians; also the weather looked uncertain, with great banks of cloud gathering in the west. It would have been impossible to find a more enchanting spot for spending the night: a *tambo* to shelter us well above the river with enough clear ground for the Indians to be able to make themselves comfortable, the river immediately in front of us forcing its way between huge, grey boulders in miniature cascades, with a lovely clear pool for bathing protected from the current by a diminutive island formed by two enormous rocks, upon which small shrubs and bromeliads grew, including a handsome *Rubus*¹ with white flowers and silver reverse to its leaves, and the stems covered with yellowish-brown hairs, and *Siphocampylus penduliflorus* (Campanulaceae), a scandent plant with rosy magenta flowers.

We spent a happy afternoon here. Michael enjoyed himself in the little pool; I unpacked the flower-presses, changed paper, and pressed the specimens I had collected *en route*; the Indians bathed, gossiped among themselves, mended their clothes, and were highly entertained by seeing the flowers pressed, which they thought was being done for medicinal purposes. A very communal spirit exists among them. A cigarette given to one, even a half-smoked 'fag', is passed round for each one to take a whiff, and a biscuit is broken into several pieces and divided. They are always made happy by being given an empty tin, box or bottle, which they fill with food or drink and hide in the jungle for their return journey. Stanley tells us that their memory for these

¹ *Rubus urticaefolius*.

hiding-places is infallible and that they never make a mistake.

That night the 'summer frog', which we had mistaken for a night-bird when camping on the Cachi-yacu, uttered persistently its rain-heralding hoot, and we also heard here for the first time the little bell-frog, which has a tinkling note like a fairy hammer striking a silver anvil; but not once did we hear the roar of jaguar or puma, fighting or calling to their mates, although they are common in this part of the Montaña.

Wednesday, August 3rd

We started off soon after 7 a.m. and from then until 10.30 a rough, narrow track, very steep in places, gradually worked its way up the side of the jungle-clad ravines (*quebradas*, as they are called) among trees thick with epiphytes, their bases hidden by dense undergrowth. An *Attalea* palm with enormous pinnate leaves occurred now and then, and dwarf *Geonoma* palms with bamboo-like leaves were common, while magnificent tree-ferns were, like yesterday, a feature of the forest in many places.

Here for the first time I heard, some distance away, the howling monkeys. I did not get a glimpse of them, but, according to Stanley, it is a large reddish-brown species (*Alouatta Senicula?*), which we had seen once or twice peering at us from tree-tops on the banks of the lower reaches of the Huallaga. Monkeys were common here—perhaps because some particular fruits they like were ripe at the moment, for I caught glimpses

of several parties of them swinging and leaping along the lofty branches of the trees that bordered the trail. One small, buff-coloured creature with a dark brown face fell from a considerable height to the ground while attempting a particularly daring trapeze act; but it seemed none the worse for a 30-ft. tumble, for it scurried up the nearest trunk and was soon lost to sight running recklessly along the tree-tops in the wake of its companions.

We had been warned that it rains most days in this locality, for at the summit cool air-currents coming from the Cordilleras meet hot currents drifting up from Amazonia and, true to form, about three hours after starting, a steady downpour began just as we reached the top of the divide. From then onwards it rained steadily until the evening. The walk was interesting as an experience, although not exactly a joy-ride, plodding hour after hour along a trail often knee-deep in mud, clambering over, crawling under, and working round great fallen trees, which at times completely blocked the way, wet through, with the reek of immemorial rot in our nostrils all day, no sound but the steady drip of ceaseless rain, and no escape for the eye—only a few yards ahead a curtain of impenetrable green penning us in on every side, with ghosts of trees smothered in ferns, bromeliads, orchids, and aroids, with long, dilapidated lianes dangling from them motionless and fantastic as the wreckage of distorted cables. Plodding along the execrable trail, tired and wet through, but with no misgivings about direction, and the prospect of a hot meal and a *tambo* to shelter us at the end of the day, my mind kept harking back to the nightmare journey

of Madame Godin des Odonais,¹ an Odyssey of hardship and horror surely unique in all the annals of travel. This lady, a Frenchwoman of gentle birth, accustomed to all the comforts and amenities of a woman in her walk of life, set out from Riobamba, in the province of Quito, on October 1st, 1769, to journey overland to join her husband at Cayenne. She was accompanied by her two brothers, a nephew aged ten, a doctor, a negro, and three women attendants.

Thirty Indian porters were engaged to accompany the expedition. They deserted (a common enough experience of South-American travel) at Canelos, an Indian settlement on the banks of the Bobonaza River which had recently been abandoned by its inhabitants owing to an outbreak of smallpox. Two of the natives who had remained behind agreed to make a canoe to take Madame Godin and her party to Andoas, a settlement some 150 miles down the river. They started off, and the third day out these Indians, whom Madame Godin, as was then the custom, had paid in advance, also deserted, leaving them in the heart of the jungle to proceed alone down an unknown river. The first day passed without mishap, and on the second they were lucky enough to happen on another Indian, who agreed to pilot them downstream. All went well until the following day, when the Indian tumbled overboard trying to retrieve the hat of one of the party which had fallen into the river and was drowned.

¹ Those interested can read a full and detailed account of this almost incredible journey in Monsieur de la Condamine's *Relation Abrégée d'un Voyage fait dans l'Intérieur de l'Amérique Méridionale* in a letter of fifty pages from the lady's husband, Monsieur Godin des Odonais, to the author. Monsieur de la Condamine was the distinguished French scientist and explorer, who published the first surveyed map of the Amazon.

Inexperienced and unaccustomed to handling a canoe, when they were still five or six days' journey from Andoas, their craft foundered and they were forced to abandon it. Luckily, they were able to salvage some provisions, and they decided to build a rude hut and wait there while the negro and another of their party set off downstream to Andoas to get assistance.

After waiting nearly a month in vain, hope began to flicker low, so they decided to construct a raft, upon which they embarked with what was left of their provisions and effects, in an attempt to reach Andoas. But the raft, probably weak through faulty construction, stuck on a snag and was wrecked, though in a place where the river was narrow enough for the whole party to struggle ashore with difficulty. Only those with personal experience of the dense undergrowth of the banks of a tropical South-American river can picture the horror of the next few days, the desperate attempt of the little party to force a way along the river's margin, the still more desperate and hopeless effort to shorten their route by trying to struggle through the miles of trackless forest across the Bobonaza's constant bends. Without food or shelter, exhausted by thirst and weak from exposure, their clothes in tatters, their bodies torn and bleeding, they finally fell exhausted to the ground and within two or three days the whole party had succumbed with the exception of Madame Godin, who, suffering all the tortures of hunger and thirst, lay prostrate on the ground watching her brothers, nephew, and companions perish one by one. Overcome by the horror of it all, Madame Godin lay there resigned to

a similar fate for nearly two days. Suddenly her courage and the will to live reasserted themselves: she replaced her worn-out shoes by sandals cut from the boots of her dead brothers and set off alone on her apparently hopeless quest—almost exactly three months from the time she had started on her journey from Riobamba. Some fruits and a few eggs of some gallinaceous bird, which she was lucky enough to find, were all she had to sustain her during her last desperate effort to find her way back to the Bobonaza. On the ninth day, just when she was on the point of dropping from exhaustion, she had the incredible good fortune, not only to strike the river, but also to encounter two Indians about to set out downstream, who treated her with the greatest kindness and agreed to take her in their canoe down to Andoas. From Andoas she was able to go without further mishap down the Pastasa River to the Amazon, and, after a brief period spent at the Laguna Mission, near the confluence of the Huallaga with the Amazon, to enable her to recuperate, ultimately rejoined her husband in Cayenne. Her marvellous constitution allowed her to make a complete recovery, but her hair turned snow-white from the nervous shock and horror of her experiences.

The memory of Madame Godin's nightmare journey was sufficient to help us to make light of all minor hardships as we struggled along through the mud and undergrowth of the sodden forest, with only the infinite diversity of leaf-form and now and then a scarlet-flowered bromeliad or gay *Heliconium* to vary the monotony of our surroundings. Once, crossing a small stream, we surprised a fine old dog-

otter, crouched on a flat stone above the water, the only animal, except monkeys, that we had seen since leaving Balsapuerto.

At 2.30 we reached in a small, open glade the remains of a large burnt *tambo*, which Stanley told us, according to the *cargueros*, was 'purposely destroyed by bad Indians'. It sounded a rather unlikely story, for, as Indians are the chief—almost the only—users of the trail, they would appear to gain nothing from burning down one of their few possible night shelters. Probably an abandoned fire fanned by a rising wind or a carelessly thrown cigarette-end was responsible for the destruction of the *tambo*.

Late in the afternoon we reached a small *tambo*, surrounded by tall, dripping trees, built on the trail on a very steep and greasy hill-side. Luckily, the rain ceased just before we camped, and the Indians, with their usual dexterity, quickly raised and re-thatched the roof and cleared, so far as was possible, the dirt and mass of decaying vegetation from where our camp-beds were put up. It wasn't exactly the Ritz, but, compared with Madame Godin, we were in clover, and a change into dry clothes and a supper of rice and bully beef soon made us forget the fatigue and discomfort of the day's march, although we now understood why, especially during the rainy season, Yurimaguas and Iquitos people having to go to Lima prefer to go down the Amazon to Para, thence up the Atlantic coast of South America, through the Panama Canal, and down the Pacific coast to Callao, rather than face the difficulties and risks of these execrable trails.

Thursday, August 4th

Day broke with golden suddenness and, after we had breakfasted precariously on the slippery, steep hill-side and the Indians had enjoyed their morning drink of a half-gourd of *masato*¹ to 'give strength' for the day, the whole party started off in high spirits, knowing that the stiffest part of the journey was now behind us. After trudging for about an hour through the same dense jungle over the same muddy, difficult trail, the forest gradually began to thin until we suddenly came out into some open country and for the first time since the Escalera de Jesus were able once more to enjoy a prospect of distant hills, showing through an ethereal blue haze, which brought to mind on a grander scale Tuscany in the autumn. For the next three hours the walk was one of pure enchantment. The light, sandy track led partly through scrub with outcrops of the forest forming little copses and spinneys. Flowers were here in abundance, *Symbonanthus Baltae* (Gentianaceae) a shrub about 6 ft. high with ovate opposite leaves and greenish-white, scentless flowers of a slightly waxy texture, with a habit which made them look like clusters of a small-flowered lily, masses of *Tibouchina ochypetala*, a tall shrubby Melastomad, ablaze with a wealth of bright purple blossoms, *Bejaria Sprucei* (Ericaceae) with dark red flowers like trusses of miniature azalea blossoms, as

¹ *Masato* is made by mixing with water a soft, cheese-like preparation of yuca, which the Indians carry wrapped in banana leaves. The yuca is peeled, boiled, and mashed and then chewed by Indian women, who spit the masticated pulp into earthenware bowls, where it is kept from four to six days, during which time the action of the human saliva produces the desired fermentation. Indians never travel without *masato*, which is both nourishing and stimulating.

sticky as the leaves, a *Cochlospermum* tree with large lemon-yellow flowers, very similar to, if not the same, species which grows along the Huallaga, another *Symbolanthus*, a shrub 6-8 ft. high with rosy magenta flowers, a handsome cousin of the Camellia and tea-plant, *Bonnetia paniculata* (Ternströmiaceae), a tree with clusters of dark pink rubus-like flowers, making from a distance rather the effect of apple-blossom, tropical Senecios, and, of course, Eupatoriums,¹ and a striking tall Composite growing 8 ft. high, *Liabum pallatangense*, with bright orange panicles and large, very deeply serrate leaves. Aromatic pineapples scented the air, while in some places a lovely orchid (*Sobralia*) white with a deeply frilled lip and a lemon blotch, 3-4 ft. high, blossomed in abundance, and several small *Epidendrum* species, including *E. paniculatum* with white flowers, were common beside the trail. I collected assiduously as we went along, thrilled by the beauty of the surroundings and excited by seeing for the first time so many—to me—new plants, in spite of Michael's apt reminder:

He loved peculiar plants and rare;
 For *any* plant he did not care
 That he had seen before:
 Primroses by the river's brim
 Dicotyledons were to him,
 And they were nothing more.

At times our way led through little stretches of savannah-like country, where the coarse grass was studded with colonies of a graceful little

¹ One of the more attractive Eupatoriums was common here: *E. amygdalinum*, with bright violet flowers, almost the same colour as its handsome Mexican cousin, *E. atrorubens*, which is cultivated so successfully under glass at Kew.

herb¹ about 18 in. high with small opposite leaves and greenish-white flowers, superficially not unlike a freesia. It must always be a most interesting locality for botanizing, and I imagine twelve months, for seeing the whole cycle of plant growth, could be spent here most profitably.

At the end of three hours we arrived at the little farm of Jesus del Monte, where a nice old crone, the grandmother of a brood of children, made us welcome and gave us some particularly luscious oranges of her own growing. She also showed us with justifiable pride a large 7 ft. by 3 ft. window box, full of two local species of magnificently grown pink begonias in full flower, which would have gained a cultural award at any show. The less pleasing spectacle of rows of thick slabs of semi-raw beef black with flies hung up on string in a dirty little backyard to dry in the sun made us appreciate the warning of a Lima doctor never to eat *charqui*, as this revolting preparation is called, which must obviously be a common source of intestinal infections, especially to those unaccustomed to the delicacy. There were several head of cattle grazing round the farm, including the finest black-and-white bull I have seen in Peru, looking as if his obviously Friesian ancestry were not very far removed. The beldam was pleased by our admiration of the sultan of the herd, and told us that cattle here always have to be shut in at night on account of the many *tigres* (jaguars) in the surrounding forest.

After a long rest and an excellent meal of boiled chicken and rice, we started off again at 1.30 p.m.

¹ *Chelonanthus angustifolius* (Gentianaceae), collected by Spruce in the neighbourhood of Tarapoto and known also in Colombia.

For the next three hours a thunder-storm and continuous heavy rain spoilt what would otherwise have been a very pleasant trek through the forest, and we were wet through by the time we reached the Yanayacu, which we crossed by a log bridge thrown across a dark, forbidding-looking gorge with a 60-80-ft. drop, through which the river flows black and sullen. The farm where we spent our last night before reaching Moyobamba lies on the river's left bank and is the typical derelict-looking place, without any attempt at the most elementary comfort, to which travel in the interior of Peru has now accustomed us.

I arrived to find Michael, who had gone on ahead, naked to the waist, crouching over a quite inadequate kitchen fire in the company of a yellow cur and two or three small children, trying to dry his clothes. I joined him and, cheered by a bowl of hot, sweet coffee, which our hostess thoughtfully provided, crouched, too, in an attempt to get dry, turning first one side and then the other to the feeble blaze. However, all was well when the arrival of the Indians enabled us to have a change into dry clothes and get our camp-beds put up in a kind of barn-like space in the middle of the house, which appeared to be used as a living-room, nursery, passage, store-room, and anything else. The night was not exactly peaceful, with the farm-hands, who slept in the kitchen—divided from our bedroom by a split bamboo partition—chattering among themselves. Our host and his family slept in a kind of Black Hole of Calcutta opening out of our room with a small pig, several hens, and an ancient hag who coughed and spat most horribly the whole night long.

Friday, August 5th

We were thankful to leave the squalid little farmhouse soon after daybreak, although the beauty of the locality at sunrise, surrounded by lovely hills of various contour with strands of fleecy cloud drifting round their thickly wooded summits, soon made us forget the horrors of promiscuous sleeping. The place is in no sense a farm as we understand the word—just a clearing in the forest, surrounded by cultivated Guava trees (*Psidium Guajava*), with a little grazing ground and a few patches of rude cultivation.

The trail from the Yana-yacu to the Mayo is easy going at this season of the year, leading partly through forest, in which a Rubiate, *Palicourea condensata*, with panicles of dull lilac blossoms and leaves veined and shaped rather like the horse chestnut, was conspicuous, partly through open stretches of country, acres of which are covered by a bracken 6 ft. high, indistinguishable, so far as I could see, except by its greater height, from our native English bracken. The Indians were very gay and happy, walking quickly, those with the lighter loads breaking at times into a trot, talking and laughing like a party of schoolboys. About an hour after passing a thatched house and some barns, imposingly known as San Juan de Dios, we reached at 10 a.m. Juninque, a small group of three or four houses on both banks of the Mayo. This river is the left-bank tributary of the Huallaga, the mouth of which we had passed just above Tarapoto. To the great loss of Moyobamba, the Mayo is not navigable thence to the Huallaga on account of a fall about

halfway, which makes it impossible for canoes or rafts to descend the river. Our whole party was ferried across, and we ate an early luncheon on the river's left bank. Thence, after an easy walk in blazing sunshine, chiefly along a broad, level track, following the Mayo's course upstream with only one little stream to ford, across which Stanley carried Michael on his back, but collapsed under his good-natured attempt to do the same for me, we reached Moyobamba about noon, rather tired, but none the worse for a week's very strenuous travelling.

Saturday, August 6th

Moyobamba, Peru's most important Montaña town, is a corruption of the old Quichua name, Muyupampa (*Muyu*, a garden, *Pampa*, a plain), as the district was called in the days when the armies of the great Inca, Tupac Yupanqui, sent expeditions to subdue this part of the country. It was always the traditional policy of each ruler to extend the Inca Empire by attempting such conquests of the Indians of the Peruvian and Ecuadorian Montaña, although Cuzco's hold over these remote regions after conquest was often more nominal than real. After the Spanish Conquest, the first expedition to the Andes of Maynas was made by Alonso de Alvarado about 1538, who discovered and laid out the place which has since been known as Moyobamba, although it is impossible to say if the present site of the town is on the same spot where old Muyupampa stood.

Moyobamba of to-day is a straggling place, covering

a very large area compared with its diminished population, and an extensive part of the outskirts of the town is taken up by large, sandy gullies, which are constantly increasing in size, owing to erosion during the rains. The town is most pleasantly situated—at an elevation of 2,800 ft.—on a small, fertile plain, bounded on two sides by the Mayo and Indoché Rivers, with a sugar-loaf-shaped mountain, El Morro, standing alone with the Indoché winding around its base, making a dominant feature of the landscape. The streets, some of which are cobbled, are mostly at right angles to each other. Many of the whitewashed houses, which in the main part of the town are often two-storied, have balconies and wide eaves and small gardens usually of a strictly utilitarian nature. There is, of course, a large *plaza* with a church of some size presenting no features of interest, one or two other churches, the usual general stores, a post and telegraph office, and a few unpretentious, little drinking shops.

The inhabitants of Moyobamba, in spite of the elevation of the town and a pleasant climate with a mean temperature 77° Fahrenheit, are rather anaemic and lethargic-looking, due probably to those three scourges of the population of tropical South America, syphilis, malaria, and hookworm. It is probably true to say that the ravages of hookworm are in the long run the most deadly of the three maladies, owing to the insidious effect of generation after generation having their vitality, nervous energy, and power of resistance to disease seriously impaired. Large communities have their blood reduced by the presence of the parasite and by a long ancestry of hookworm

infection to 50 per cent. of its normal efficiency. The symptoms of the worms' presence in the intestine are not obvious, except in severe cases, and the condition can only be diagnosed with certainty by examination of the faeces. Also, it is a fact that one person may be injuriously affected by a few hookworms and others harbour many of them without obvious ill-effects. White races are particularly susceptible of hookworm infection, while negroes suffer relatively slightly; also, the effect of a few worms—say, up to fifty—in the intestines of an averagely healthy, well-nourished individual is usually almost negligible:¹ it is at the 400 mark that serious trouble usually begins.

Necator americanus is the predominant species and is primarily a tropical worm. It is capable of development in apes and monkeys and possibly pigs, but it is essentially a human parasite. *Ancylostoma duodenale*, the second most widely distributed species, is also primarily a human parasite and is much the more injurious of the two. They are long-lived—the length of life of an adult worm in the human intestine can be as much as five years. *Necator americanus* produces 5,000–10,000 eggs a day; *Ancylostoma duodenale* twice that number: these are expelled in the dejecta, develop in the soil into larvae, and find their way back into a human body either through the mouth or the skin.

¹ Cf. A. C. Chandler's *Introduction to Human Parasitology*: 'The erroneous-ness of judging hookworm infection by the percentage of people infected is nowhere better demonstrated than in Bengal. In that country, with its 46,000,000 inhabitants, an average of at least 80 per cent. of the people are infected—a condition which a few years ago was spoken of as "staggering". But egg counts show that in 90 per cent. of the area of Bengal the average worms harboured per person is less than twenty, and not more than 1 per cent. of the people have over an estimated 160 worms and none over 400. In other words, instead of being a staggering problem involving the health of over 35,000,000 people, it is negligible from the public health point of view.'

Once there, they come to rest in the intestine, where they attach themselves and bite the intestinal wall, causing haemorrhages, which are intensified by a secretion which prevents the blood from coagulating, though probably the toxic effect of their secretions and excretions is even more injurious than the actual loss of blood from their bites.

The first human hookworms were discovered just a century ago by an Italian, Dubini by name; but it was only after they were found to be the cause of an epidemic of severe anaemia among the navvies employed on the construction of the St. Gothard Tunnel that their danger to health was recognized.

Modern medicine has discovered ways of successfully treating infected persons, but, unhappily, in localities where the majority of the population walk with bare feet and sanitation is unknown, a patient discharged with a clean bill of health is likely to be rapidly reinfected.

We are installed here in rooms in a house belonging to one Don Julio Acosta, a relative of the Acostas we met in Yurimaguas—most comfortably. They are beautifully cool and, for the Peruvian Montaña, surprisingly clean. Michael's room opens on to the street, mine on to an open courtyard, round which the house is built, with a room beyond, which Stanley and Adolfo share—in fact, a suite. We can enjoy the comfort of wooden beds, and sheets, although Michael's is too short for him and he prefers to use his camp-bed, and I have the unaccustomed luxury of a long table by my bedside which, covered by a spare sheet and with some jars and bottles displayed, a small looking-glass, my few books, and a jug of wild flowers,

caused Michael to remark, after eyeing it critically: 'I don't know how it is, but when you have been in these funny places half an hour, somehow you make them look like Gladys Cooper's dressing-room.' I could only envy him the implied familiarity with the lovely Miss Cooper's more intimate surroundings, while wondering what her verdict on the place would have been.

During the morning, much to our surprise, our *cargueros* Indians came to say good-bye before starting on their homeward journey. They had been given their tips, and they receive their pay through Señor Mesa of Balsapuerto, who contracts for them (total, including Mesa's commission, about £8) and we imagined that we had seen the last of them, for we were told that usually they just disappear as soon as their contract is finished. We shook hands with them all and gave them some cigarettes and odds and ends, which pleased them, though, as usual, they just grabbed them without even the equivalent of the wag of the tail of a dog or the purr of a cat. It made one realize the endless generations that must come and go before a savage race can reach a point in the long upward struggle from complete barbarism where language can develop even so apparently simple a formula as 'Thank you'.

We spent the whole afternoon cleaning our kit and hanging all our belongings up to dry in the sun on long clothes-lines, which we stretched across the courtyard. All the leather of the inside of our suitcases was covered with green mould, and every garment as damp as if it had come straight out of a basket of half-dried laundry, and this after only one

week in the tropical rain forest. A few specimens were so rotted with mildew that it was impossible to save them, but an afternoon in the scorching sun of Moyobamba dried everything with extraordinary rapidity and, by changing all the paper and leaving everything exposed to light and air, there were not many serious losses.

Sunday, August 7th

A novel excitement in the form of a large packet of correspondence, which, before leaving Lima, I had arranged hopefully to have sent by the first August air-mail to Iquitos, c/o the Prefect of Moyobamba, though wondering if it might be in the nature of a bow drawn at a venture. After being cut off for nearly two months from all familiar things, it seemed strange and rather disturbing to be plunged once more into a world which had begun to grow almost shadowy during the time that we had been uniquely occupied with our little daily problems of food and night-shelter, while knowing, if the earth opened and engulfed London, that we simply should not hear about it. My mail included a long letter from a friend in the Foreign Office writing with concern at the apprehension they all feel about the possibility of a Central European crisis in the autumn, with the spectre of war showing through the carefully guarded sentences. A gossipy air-mail letter from Paris to Lima told me about some plays I ought to see, criticized French politicians in general and Blum and Bonnet in particular, and spoke of the enthusiasm roused by the State visit of the King and Queen, and

with an observant Frenchwoman's appreciation of the Queen's beauty and a white evening dress she wore. Another letter from London told me of some bright young things being true to themselves and false to their vows in the Divorce Court, and of a rising young politician's future in jeopardy through his kettle wife threatening to object to the pot's liaison with a *femme néfaste* in the Law Courts. The same letter mentioned some new books worth reading and bewailed the death of poor old Lady Warwick, buried amid paeans of praise from the Socialist Party, rather as if Madame de Pompadour had survived the *ancien régime* and been commended by Robespierre as a *tricoteuse*. My most faithful correspondent, who made South America his playground for years and speaks of Iquitos as a jumping-off place with the familiarity with which a Londoner might discourse on Clapham Junction, wrote telling me about some of the plants I might see in flower at this season between Moyobamba and Chachapoyas, and enclosed a lovely poem written by Alfred Noyes for Irene Vanbrugh's jubilee matinée, in which her first appearance before a London audience as Phoebe in *As You Like It* is most enchantingly recalled:

Fifty years back in Arden—Though her name
Was printed small, through the proud wood she came;
And, all at once, old London was aware
That Shakespeare's very shepherdess was there—
The bird-like eyes, the living truth and grace,
The spirit of youth and wonder in her face—
Speaking, as April might, or April's birds,
The Master echo of Kit Marlowe's words:
'Dead shepherd, now I find thy saw of might
Who ever loved that loved not at first sight?'

Could anything be more exquisitely felicitous? Though I cannot help wondering what the poem sounded like spoken with the slick competency of Mr. Noel Coward, when the emotion and golden voice of a Terry are so obviously demanded by the quality of the verse. The rest of my correspondence included a dentist's bill for trying to save a tooth, which had to be extracted in Lima; a reminder from a tradesman that his terms are 'strictly cash'; one or two—thank Heaven!—receipted bills; a formal invitation to a formal dinner two months ago in London; a typed circular communication from a peeress of fashion and passion, whom I have never even seen, beginning 'Dear Mr. Sandeman' and ending 'Yours sincerely', explaining chattily and optimistically that she is sure that I shall be interested in her cabaret ball and hoping that I will express my interest, if not by taking a party, at least in terms of a two-guinea ticket; a catalogue of 'new suitings', 'half hose', 'sports pants', and 'fancy vests'; and a newspaper giving an account of a young nephew's engagement and, among other items, urging me, in the interests of national efficiency, to 'eat more fruit', 'shoot more sparrows', 'drink more milk', and 'kill more rats'. Somehow in Moyobamba it all seems 'curiouser and curiouser'.

We spent a lazy day writing letters to go by the next air-mail to Lima and finished cleaning our kit, assisted by Stanley and Adolfo. In the evening we had dinner with a friendly German couple, who have a little farmstead on the outskirts of the town, and enjoyed a meal cooked with all the artistry of the efficient German *Hausfrau*, and some Wagner, Mozart, and a selection of well-sung folk-songs on their

gramophone after dinner. Our host is the local agent of the Lima branch of the Banco Italiano, and since going to see him on business the day we arrived here he has been our guide, philosopher, and friend in Moyobamba.

Monday, August 8th

We have decided to take the highly efficient Stanley as far as Cajamarca with us, and Adolfo has asked to be allowed to go with us, too. He is not of much use, but he and Stanley are now accustomed to each other and they will be able to do the homeward journey to Yurimaguas together. We spent the morning going through our stores, throwing out and burning in our courtyard what has rotted in the jungle, and making a list of what we need—not necessarily what we shall be able to get—for the next stage of our wanderings, and finishing the letters which we hope to send off by to-morrow's air-mail.

As appears to be the custom all over the remoter districts of Peru, we are given no meals in the house where we are staying, but have them all in a pleasant little restaurant, which is a two-storied building with ten or a dozen small tables set out down one side of a broad, covered passage running round three sides of an open interior *patio* garden, planted with one or two orange-trees, Brunfelsias, Crotons, Hibiscus, &c.—everything just stuck into the ground without any attempt at grouping or arrangement—and two varieties of the inevitable *Bellissima* (*Antigonon leptopus*) trained up bamboo supports. The food is simple and, of course, extremely monotonous, but reasonably

well cooked, though at the moment there is no bread in the town. However, boiled yucas and bananas cut into thin slices and fried make palatable substitutes for bread, and the latter is particularly good eaten with an *omelette aux fines herbes*. Conditions of life in Moyobamba appear to have altered hardly at all since Raimondi's second journey to the place in 1868, ten years after his first visit. 'The making of straw hats', he writes, 'has enriched and made Moyobamba and the surrounding townlets¹ progress in an extraordinary way, contributing to the comfort and well-being of its inhabitants. At the period when I visited Moyobamba for the first time, it was very difficult to get meat or fresh bread, salt fish called *Paichi* and bananas being almost the only food of the inhabitants. Now there is a slaughter-house in Moyobamba where animals are killed daily, and there is no lack of fresh meat. The same has happened with the bread supply, which rarely fails.'

Cooking in the Peruvian Montaña has, of course, not even a bowing acquaintance with culinary art, and food can only be said to be cooked in the sense that it is not eaten raw. The monotony of rice, beans, yuca, and bananas is hardly ever varied by the many possible ways of treating them. The following recipe, given to me by our kind hostess of last night, who, like all born cooks, is creative as well as interpretative, is, she assures me, one of the best of many different ways of cooking bananas: 'For four people, take eight ripe (better under-ripe than over-ripe) bananas, remove a third of the skin *lengthways* and loosen the remainder

¹ Straw hats are no longer made in Moyobamba. Rioja and Celendin have become the chief centres for making them.

of the skin, being careful not to break the fruit. Butter a baking-dish, lay the bananas in it, and place some pieces of butter the size of a pea and some chopped sweet almonds on each fruit. Then pour over each a teaspoonful of lemon juice mixed with a little vanilla essence, drench liberally with sugar, and bake for a quarter of an hour in a quick oven. Serve with them a sauce of hot rum into which some chopped almonds have been stirred and—I would add, that unprocurable luxury here—whipped cream.’

In the evening we had a pleasant dinner with Dr. Lindsey, a Scottish missionary doctor, who, assisted by two Scottish nurses, runs most efficiently a small local hospital, which is doing admirable work in a district where such work is badly needed. Although he has only been a short time in Moyobamba and on his arrival found himself in the difficult position of having immediately to don the mantle of another Scottish doctor, who had just left after several years’ residence, during which time he had won the trust and regard of the whole Department, Dr. Lindsey has already succeeded in gaining the respect and confidence of all this district, culminating only yesterday in a successful operation for a difficult case of appendicitis on a local Peruvian colleague.

It was pleasant to sit once more in comfortable chairs after dinner instead of on our hard packing-cases and to listen to the Doctor’s entertaining stories of his experiences in the Montaña. He told us that people here have a dread of consumption that amounts almost to a mania, and that for humanitarian reasons he would always avoid using the dread word, even if there were no doubt about a diagnosis, because

unfortunates who are known to have contracted T.B. are shunned by everyone as if they were lepers. Locals here have a touching belief in the efficacy of the more foul-tasting aperients as cures for any and every distemper, from catarrh to cancer, and 'pills to purge melancholy' would sell like hot cakes in Moyobamba. They prefer to take their high explosives when the moon is full, especially as a remedy against hookworm, for they believe that these parasites are then pointing downstream, so to speak, and are therefore easier to expel! Most agricultural activities, such as the cutting of timber, pruning, sowing, planting, and grafting, are regulated by the phases of the moon, just as the peasants in their traditional wisdom still farm in many European countries.

Tuesday, August 9th

Started off early with Stanley and the collecting tins to walk to the foot of El Morro, about six miles away. The country round Moyobamba is extraordinarily parched even for the time of year, for, except for one or two storms, hardly any rain has fallen here, we are told, during the past month. The trail leading to the Indoché River, which winds round the base of the mountain, is dust dry, and the majority of trees and shrubs are in fruit. We saw a great number and big variety of birds in this locality, which is well watered by one or two small streams, and I again regretted my ignorance, which made it impossible for me to identify any of them except a particularly lovely and unmistakable kite (*Eleanus leucurus*) with a long, forked tail, which, combining the appearance, grace, and

strength of a swallow and a falcon, swooped and soared in the dazzling sunshine like a white-sailed yacht on a Mediterranean sea.

As we approached nearer to the river, forest began gradually to replace the more open, cultivated country and, where growth was thicker, a species of vanilla orchid with typical aerial roots and large, leathery leaves was fairly common, climbing among the undergrowth in semi-shade, but I found none in flower and only one plant bearing a half-developed, waxy, green seed pod. The bulk of the vanilla of commerce is the product of *Vanilla planifolia*, a strong-growing scandent species indigenous to Mexico, which thrives up to 1,500 ft. above sea-level. Plants of this species cultivated under glass must *always* be hand-pollinated to induce them to set seed: even those plants grown commercially in the tropics have to be fertilized by hand in order to obtain the best results. About thirty pods is the usual allowance for a strong plant, some 120 of which go to the pound, and the best pods usually grow on the lower half of a plant. Almost as important as the correct cultivation of the orchid is the careful drying of the seed-pods, for flavour and scent are due to the presence of a fluid substance known as 'vanillin', which forms minute crystals on the outside of the dried pods. Vanillin is now made chemically, and discovery of the formula has damaged the sale of the natural product, just as the manufacture of synthetic scent has ruined the growers of flowers for the perfumeries of Grasse, in spite of the fact that a subtle sense of smell can always detect, after scent has been for some time on a handkerchief, the difference between genuine extract of flowers and a chemical

substitute. Probably an educated palate would have as little enthusiasm for synthetic vanilla as Queen Margherita of Italy would have had for a Tecla pearl; but, happily for the majority, a C₃ sense of taste is the rule rather than the exception.

We ate our lunch in the shade of a tall *Bombax* tree on the left bank of the Indoche, a slow-flowing, muddy little river, here about 8 yds. wide, near a little farmstead, where sugar-cane, yuca, coffee, and maize are cultivated. The family, seated in the shelter of a *tambo*, were eating their midday meal, which, with the well-mannered convention of the old Spanish tradition, they invited me to share. I observed the conventions by declining their hospitality, though, when asked a second time, I accepted a half-gourd of perfect coffee and sat and talked with them for a little before starting on our homeward walk.

We returned by a different route, the owner of the farm guiding us through the thick tangle of his coffee and sugar plantations; here I tasted sugar-cane for the first time, and thoroughly enjoyed walking along with a stem of it in my hand, cut and peeled by Stanley with his *machete*, chewing and spitting out the juicy, refreshing pith in the true 'darkey' manner. Just before reaching the trail which led back to Moyobamba, our guide gave a sudden hiss of excitement and pointed to a fat brocket feeding on his sugar-cane. With a few hurried words of farewell, he rushed off to summon his family and pack of mongrels to the chase. Shortly afterwards we heard the yapping of the pack and the shouts of the excited hunters. I do not know what happened, but I think the odds were all in favour of the little deer's escape.

We arrived back at Moyobamba just before sunset, and it was pleasant to be able to spread out in comfort the specimens I had collected and get them pressed under dry, sheltered conditions. They included a striking brick-red Amaryllid (the only one I saw in flower here) *Hippeastrum puniceum*, that sweet-scented, exotic invader, *Hedychium coronarium* (Zingiberaceae), here growing in masses in moister places not far from the town, four attractive scandent plants, common in many localities here, *Manettia cordifolia* (Rubiaceae) with bright crimson, tubular flowers, *Mandevilla scabra* (Apocynaceae) with small canary-yellow flowers, rather like its cousin the Allamanda, the scarlet passion-flower, *Passiflora coccinea*, and *Dioclea lasiocarpa*, a very vigorous leguminous plant with masses of small heliotrope-coloured pea-like flowers growing rampantly on the banks of streams. I also collected among other plants an attractive member of that—from a gardener's point of view—rather uninteresting family, *Eupatorium Gascae* (Compositae) with bright violet flowers and acuminate, viscous leaves with a deeply serrate edge, and two other Composite shrubs with lavender-coloured flowers, *Ageratum conyzoides* and *Psoralea lasiostachys*, a pink-flowered Melastomad, *Graffenrieda Limbata*, with the lovely leaves typical of the family, a tree with small bright orange flowers, making a rather Berberis-like effect, and leaves with a very russet reverse, *Byrsonima chrysophylla* (Malpighiaceae), one or two members of Myrtaceae with fragrant white flowers, *Triplaris peruviana* (Polygonaceae), a tall tree, much frequented by ants, with chestnut-like leaves and flowers with perianths ranging from ivory white through every

A FORGOTTEN RIVER

shade of pink to dazzling scarlet, and a curious herb,¹ quite unlike anything I have ever seen before, with stem and leaves thickly covered with short hairs and inconspicuous, axillary flowers with a greenish-yellow calyx tube and dirty-white petals growing from the base of the *reverse* of the leaves all up the stem.

Wednesday, August 10th

Spent a domesticated morning darning socks and a pullover of riper years, which I hope thus reinforced may hang together for another four or five weeks, by which time I suppose, if all goes well, we should be back on the Pacific coast, if not at Lima.

Hospitable Herr Andresen, our new German friend, called just before noon and took us out to lunch with him and his wife. Frau Andresen told us that the servant problem is almost as acute here in Moyobamba as in more sophisticated places. A 'treasure' whom she recently engaged was instructed—as a hygienic precaution—to wash all meat that came into the house, with the result that a few days later Frau Andresen went into the kitchen and found the well-intentioned treasure scrubbing a cooked leg of mutton with soap and a nail-brush!

After luncheon, Michael and I walked with our host, accompanied by Hänsel, his small son, and the latter's devoted crony, a very intelligent little half-Indian boy, down a steep half-mile to the Mayo River. Andresen carried a shot-gun and Michael an air-gun

¹ *Helicteres pentandra* (Sterculiaceae). There is a plate of it in the monumental *Flora Brasiliensis* of Martius, vol. xii, part 3, plate 3.



STREET IN MOYOBAMBA



AN OPEN GLADE IN THE JUNGLE



OUR CAMP IN THE FOREST NEAR ALMIRANTE RIVER



O'HALLORAN AND THE MULETEERS. CAMPING-GROUND
PISCAHUAÑUMA AT SUNRISE. (10,000 FEET)

with designs upon the fauna (doves are common here at this season), I a collecting-tin with designs upon the flora. The track along the river's right bank was quite dry and very pleasant walking, the river slow-flowing and muddy, with an occasional canoe or raft on its waters. Andresen told us that the forest a little lower down becomes very dense and he has never met any one who has even seen the fall which bars the way by water from Moyobamba to the Huallaga. He said it would only cost £25 to £30 to cut a trail through the jungle to that point. If ever I returned to Moyobamba, I should feel very inclined to put up the money and engage a party of *peons* to do the job, for, apart from the interest of being probably the first white man to see that stretch of the Mayo, one might have the good fortune to collect some new species of plants along the newly-cut path, also if the unnavigable stretch of the river were only a short one, a trail from Moyobamba to below the rapids or fall would open up more direct communication between this town and the Huallaga and Yurimaguas.

The fauna were very elusive that afternoon and the flora almost equally so, for I saw little in blossom except masses of a shrubby solanum with small white flowers, a leguminous tree, the name of which I never discovered, with bright apricot-coloured, fleshy flowers, much frequented by ants, quantities of *Brunfelsia bonodora* with bright heliotrope blossoms fading to white, near an abandoned hut, and one tiny orchid seedling, an *Oncidium* with a minute yellow-and-brown first flower growing epiphytically on the edge of the forest.

An interesting tree grows in this locality, *Olmedia*

aspera (Urticaceae), or the *Llanchama* tree, as the Indians call it. This tree, which ranges from Ecuador right down into the Bolivian Montaña, grows to a height of some 30 ft., has very scabrous leaves and a trunk which when cut emits copiously a white latex. The inner fibrous bark of the tree when beaten and washed becomes very flexible. After being so treated, it is to a certain extent waterproof and is stretched and pulled into various shapes by the Indians, who use it for small blankets and as a covering for protecting their belongings from rain when trekking through the jungle. Several of our Balsapuerto *cargueros* Indians had lengths of *Llanchama* fibre, which varies in colour from a dirty grey to brown and is of about the same thickness as sacking.

Growing near a thatched dwelling were one or two *Taguas*, the ivory-nut palm, which is also frequent in some places on the Huallaga. Called by the Spaniards *Palma del Marfil*, and known botanically as *Phytelephas macrocarpa*, it was well named by Ruiz and Pavon (φυτόν, a plant, and ελεφας, an elephant), for, as the elephant is the provider of animal ivory, so the *Tagua* is the provider of vegetable ivory. This palm grows up to 4,000 ft. above sea-level and has no fixed fruiting season. It has almost no trunk and long, gracefully arched leaves, which in the staminate palm extend from the base upwards. The pistillate palm has slightly perfumed flowers, situated at the bases of the lower leaves, in the axes of which, borne on a short foot-stalk, the fruits are borne. These are about the size of a large green walnut and are usually thirty-five to forty-five in number, enclosed in a spathe of globular form as large as a man's head, weighing some 30 lb.

In their early stages, *Tagua* nuts are soft and can be eaten and are greatly relished by pigs, and the Indians in certain localities make a beverage from the thin, pulpy coat covering the nuts.

We returned to the Andresens' house for a cup of tea after a very pleasant afternoon, with the game-bag empty and the collecting tin almost the same. Michael stayed on for supper, but I felt that I had heard all I wanted to hear and said all that I wanted to say, so I went back to Miss Cooper's dressing-room and turned in early.

Thursday, August 11th

This morning, before we had finished dressing, the proprietor of the restaurant where we feed, a friendly, clean-looking man, showing a pronounced strain of negro blood, arrived with an invitation to a party which he and his wife are giving to-night in honour of his married daughter's twenty-fourth birthday, which we, of course, accepted. They are a cheerful, pleasant-mannered family, and a small imp of a grandson, about six years old, with enormous black eyes and a most engaging smile, who haunts our table at meals, has caused us much diversion. One day we asked him if he would sing to us: no one more ready to oblige, and we were vastly entertained when, without much sense of melody, but with great vigour and dramatic instinct, he embarked upon a peculiarly fervent love-song, the refrain of which began 'Come to my arms, I love you with passion!'

After luncheon I wandered about the town and took some photographs of the more picturesque

corners of Moyobamba and enjoyed for the first time for six weeks the luxury of a hot bath in which I could lie out at full length, at the house of thoughtful Dr. Lindsey. What bliss once more not only to be, but to feel, really clean!

In the evening we went to the birthday party. The whole place had been swept and garnished, the *patio* cleared for dancing, and a small room opening out of it arranged for refreshments, consisting of cakes, sandwiches, fruit salad, beer, *pisco*, coffee, lemonade, and a rather sweet but seductive kind of milk punch, called *Leche de Tigre*, or Tiger's Milk.

The guests—about forty to fifty—were all very civil and well-mannered and without any of the pretensions which would probably have obtained in a similar walk of life at home. One rather handsome young woman looked quite sensationally out of the picture in a bright green satin evening dress, varnished scarlet finger-nails, plucked eyebrows, and an elaborately dressed head. Michael rather 'got off' with her less showy, but more human looking, younger sister. The beauty of the family bore down upon me, fan spread and ribbons flying, but I found her rather uphill work and conversation languished in spite of a well-intentioned old man's whispered recommendation: 'She specializes in Prefects, but you can make her any indecent proposition you like!'

At midnight a vigorous alarm-clock announced the beginning of the heroine of the evening's twenty-fourth year. This was the signal for general embraces and congratulations, when Michael, though a little backward in the language, showed himself conspicuously adept in the manners and customs of the Peruvian Montaña.

DIARY OF THE EXPEDITION

The evening ended at 3 a.m., when the band, returning home after the party, stopped outside our dwelling to serenade us. We feigned sleep—only to provoke a louder and more insistent serenade. Our continued silence led to another musical effort that would have roused the 'Castle of the Drowsy Doom', after which, still meeting with no response in the form of tips or drinks, the disappointed musicians dispersed, leaving us in peace.

Friday, August 12th

Got up late, feeling less on the crest of the wave than usual through being out of training for late hours and social functions, and spent a lazy morning writing letters and labelling specimens.

In the afternoon we walked with the Andresens by a track through the forest to visit an Italian admiral, married to a Peruvian wife some forty years his junior, who lives about two hours away in a ramshackle little dwelling in the forest, dignified by the name of *Los Baños* (The Baths) from a tepid trickle of water flowing into a slimy, brick-lined hole in the ground, where the Admiral tells us he has a daily dip. He keeps a few head of cattle, some pigs and chickens, and obviously lives in the greatest discomfort. The surroundings of the house are lovely in dry weather, although the steep hills, covered with fine timber and dense undergrowth, are too close and shut out a view. Several patches of a scarlet Amaryllid (*Hippeastrum miniatum*) were in flower growing near the shack, also *Eucharis*

grandiflora, which I had not seen since finding it in the neighbourhood of the ford of Puma-yacu.

We drank coffee with the Admiral and his friendly little wife and I discovered by one of those unlikely coincidences, which almost automatically provoke the platitude 'How small the world is', that our host had known in his youth another Italian admiral, married to one of my Portuguese cousins, who was Italian naval attaché in London towards the close of Queen Victoria's reign.

The Admiral told us that the trail from here to Cajamarca, especially the section through the Montaña to Chachapoyas, entirely bears out Lieutenant Maw's description in 1827 of being 'badly made, worse kept, and absurdly chosen' and that at times during the rainy season, which is at its worst from the beginning of January to the end of April, it is almost impassable even for mules, which this year as late as the middle of June could hardly struggle along with their packs through the mud-holes and morasses of this preposterous Andean highway. He also told us that we are almost certain to spend a rather miserable night on the Piscahuañuma Pass, where we have to camp on an elevation of about 10,000 ft., for it constantly rains there and, if rain does not fall, there is a bitterly cold wind, from which the place presumably derives its name, which means in the Quichua tongue 'The Place where the Birds Die'.

In the evening we heard that the mules, with their muleteers, our next form of transport, have arrived without mishap from Chachapoyas. They will rest here all to-morrow, which will enable us to begin the trans-Andean stage of our journey on Sunday morning.

Andresen tells us that we are not expected to tip the muleteers in money; but, as a kind of daily reward for good behaviour, it is usual to give each man every evening when we camp a tin of sardines, rice for his supper, and a glass of *pisco*. In the evening the chief muleteer and his three henchmen, a tough-looking quartet, came to make our acquaintance. They said that they will be ready to go on Sunday, in view of which I told them to bring round for inspection the two mules which Michael and I are going to ride at eleven o'clock to-morrow morning, in order that we may know the worst before we start.

Saturday, August 13th

Our last day at Moyobamba. We spent a busy morning packing and wedging provisions for the journey as tightly as possible into the store-box, which, with the case of cooking utensils, we have had made into smaller and more convenient sizes for the pack-mules by the simple method of sawing off the bottoms of the boxes with about 6 in. of the sides and nailing on the bottoms again. We also bought *ponchos* for Stanley and Adolfo, whose thin Montaña clothes are quite inadequate protection against the cold winds of the Cordilleras.

The muleteers, looking as if they were suffering from a severe 'hang-over', turned up with the two mules at 2 p.m. instead of 11 a.m., as arranged. I expressed myself forcibly in the foulest Castilian I could command, adding that when we say 7 a.m. is the time for starting to-morrow morning it does not

mean 9 or 10 a.m. Probably I should have done better to save my breath to cool my porridge, and incidentally I ought by this time to have learnt by experience that we should have said 5 a.m. in order to give us a reasonable chance of starting two or three hours later.

The two mules are of moderate size, but powerful looking. The box-saddles, bridles, and large leather stirrups of the country all appear to be on the point of falling to pieces, which they probably are, for, of course, they are never cleaned, in spite of the obvious fact that a little care in the form of grease or oil would make them last twice as long. The mules are the property of a rich old man, Don Pedro Quiroz, a native of Chachapoyas: he is, so Don Julio tells us, the owner of more than 200 pack-mules and ponies and has something like a monopoly of transport between Moyobamba and Celendin, where there is a road of sorts, making motor transport possible thence to Cajamarca.

In the afternoon we had tea at the Mission hospital with Dr. Lindsey, the two Scottish nurses and the Andresens. Before tea Dr. Lindsey showed us all over the hospital, which reflects the greatest possible credit on every one concerned—in fact, so high does its local reputation stand that Peruvians from Chachapoyas, and even Yurimaguas, have been known to face several days' arduous journey in order to come here for advice and treatment. It is supported by subscriptions contributed chiefly by members of the Free Church of Scotland. Considering the remoteness of this isolated Montaña townlet and the high cost and immense difficulties of transport, the little hospital, with its up-to-date equipment and good supply of

drugs and surgical instruments, is a striking testimony¹ to the lively faith, grit, and high organizing capacities of the men who founded it and to those who carry on an entirely admirable work.

What Dr. Lindsey told us confirmed all that we have already heard of the decline of the Montaña in population and wealth since the collapse of the rubber boom. In 1814 a census gave the number of inhabitants of Moyobamba as 3,564, which included 'eight male and eight female slaves'. In 1847 the population, according to Dr. Nieto, was estimated at 9,000, a very large increase in thirty-two years. No recent census figures are available, but at the height of Moyobamba's prosperity the number of inhabitants is said to have risen to over 13,000 souls. To-day it is back to some 7,000, with, at the moment, a slightly upward tendency. Peru's total population, of whom the great majority are Indians and semi-Indians, is calculated at some 6 millions; but the vast uncharted forest region, with its semi-nomad Indian tribes, makes anything but an approximate estimate impossible.

We were sorry when the moment came to say good-bye to our kind Moyobamba friends, who have made our stay here a very agreeable one. Of all the places where we have spent some time since leaving Lima, we have liked Moyobamba and its simple, pleasant-mannered inhabitants the best, and the nine days we have been here will always be a happy memory.

After supper we went to take leave of Don Julio, who has been most civil and helpful during our stay in his house, and settled our account with him—18s. for the nine days for ourselves and for Stanley and Adolfo. We also paid him £10 for the six pack-mules,

two ponies, and our two riding-mules and four muleteers, who will convey us and our baggage for the six days' trek from here to Chachapoyas, and he will settle with Señor Quiroz.

That evening we did not attend Moyobamba's only attempt at night life, a gramophone played at an upper window of a house in the main street to an appreciative audience, standing or sitting on the cobbles of the street below, but finished packing and turned in early, for we have to be up at daybreak to-morrow.

Sunday, August 14th

Knowing by experience that although it is easy enough for travellers to propose to start at sunrise, yet when Peruvian muleteers dispose, the actual time may be anything between daybreak and noon, we were not unduly surprised when, after being optimistically booted and spurred with everything ready by 7 a.m. sharp, the muleteers with the conventionally noisy obscenities of their kind came clattering over the cobbles with our eight mules and two ponies just before 8.30. Some of the mules have bad sores and girth-galls, but all are sound and, except for the two ponies, which are narrow and weedy, looked up to carrying heavy loads. There were interminable noisy discussions and changing of packs, during which time the long-suffering animals sometimes shook off the *ponchos* with which their heads were covered in order to make them stand quietly while being girthed up and having the packs adjusted, and made off up or down the street. After capture, the process began

all over again, the offending animal being recalled to a sense of duty by a string of vigorous expletives and expostulations, beginning with some such vivacity as 'Mother of God! Wilt thou never learn, thou whore? . . .' The street looked on at the familiar sight with detached interest and an occasional futile suggestion. However, spurred by a hint of no *pisco* for supper as retribution for their late arrival, the muleteers really got a move on, so that, rather to my surprise, we were able to set forth on our first stage of the old trans-Andean trade route a little before 9.30.

We left Moyobamba in perfect weather, not much hotter than a hot August day in England, and as we rode out of the town we both expressed the hope that Fate might one day bring us back to the peaceful little Peruvian townlet, which had contributed not a little to our storehouse of happy memories. As far as the Indoché River, we followed the same trail which I took on the return walk last Tuesday when I went plant-hunting with Stanley. We crossed the Indoché River by canoe, as the ford was deep—up to the mules' girths. Shortly afterwards we passed through the village of Calzada, a long, straggling jumble of small houses, where we bought twenty oranges for a penny. As at Moyobamba, *Carludovica palmata* or *Toquilla*, as it is called locally, is much grown for providing Rioja with fibre for making Panama hats. *Carludovica palmata*, so named by Ruiz and Pavon by compounding the names of Charles IV of Spain and his Queen, Luisa, has the appearance of a small, stemless palm, although actually it belongs to Cyclanthaceae, a family which, so far as I know, is confined exclusively to tropical South America. It reaches a height of 9 or

10 ft., and the straw is obtained by cutting the young leaves from the heart of the plant, just when they are beginning to unfold. Only the white parts of the fan-shaped leaves are used, which are pulled apart by hand into very narrow strips, boiled, and then dried and bleached in the sun.

A short distance beyond Calzada the trail enters the forest and continues to be relatively good for some stretches, but so incredibly bad in others that, in spite of the fact that no rain had fallen there for the unusually long period of over three weeks, two of the animals sank up to their bellies in the mud and had to have their packs removed before they could be extricated.

We were much puzzled by seeing in one or two places on the muddy trail the imprint of motor tyres in localities where we knew no car could possibly pass, apart from the fact that we were literally hundreds of miles from the nearest motor road. However, the mystery was explained when a party of natives passed us in the forest, two of them, who had presumably travelled as far as Celendin, where cars enjoy a brief and precarious existence, having had the original notion of cutting up an old motor tyre and using bits of it as sandals.

About four o'clock in the afternoon we reached the Tonchiman River—like the Indoché, a small, right-bank affluent of the Mayo—and were ferried across it, reaching Rioja, famous for its fine quality of Panama hats, rather tired after our first long ride for many weeks, on hard saddles over some rough going, a little before sunset. Rioja is just the usual haphazard, unplanned Montaña townlet of some 2,500 inhabitants with the inevitable *plaza* and ramshackle church,

standing about 100 ft. higher than Moyobamba on a little sandstone elevation on the fringe of an open stretch of country. Its climate is said to be the best of this part of the Montaña and we are told that the soil is so fertile that it will grow two or three crops of maize in a year. Many varieties of fruit prosper at Rioja, including pineapples, passion-fruit, mangoes, avocado pears, bread-fruit, oranges, lemons, bananas, papayas, and many others.

We spent the night at the house of a well-known maker of Panama hats, some of whose creations Michael had bought when we made her acquaintance at the birthday party at Moyobamba. She told us that the coarse, cheap hats can be made in a week and sell for about 15s., whereas those of really fine quality take from a month to six weeks to make and even here cost each from £3 to £4.

We enjoyed a fair version of the best kind of Montaña supper, a good soup, fried eggs, and rice, some hard, stringy meat and indifferent coffee. Our camp-beds were installed in the usual completely empty room, without windows, but with doors divided into two halves opening out on to the street, and we turned in directly after supper, seeing that we must be ready to start at daybreak to-morrow, with a twelve hours' ride ahead of us.

Monday, August 15th

We rose when it was still dark, packed up, breakfasted, paid our bill (5s. for ourselves, Stanley, and Adolfo, including supper, breakfast, and some cold

meat and bread for our midday meal to-day) and left Santo Toribio,¹ as Rioja was once called in honour of the saintly Archbishop whose apostolic zeal brought him even to this remote corner of the Peruvian Montaña. Greatly to our surprise, we started at 6 a.m. punctually, as the result of a Hitler-like discourse the night before, accompanied by threats of no sardines for supper as a penalty for being late.

The trail from Rioja to the Rio Negro, another small right-bank affluent of the Mayo River, was an enchanting ride in the early morning, the sandy track (quite dry at the moment) leading through open country between stretches of bracken and low scrub and bushes, among which *Solanums* and some *Melastomads*,² including *Miconia puberula* and *M. rufescens*, were now in flower, a few terrestrial orchids, chiefly *Epidendrums*, and *Bejaria cinnamomea* (*Ericaceae*) with carmine-pink, *Azalea*-like flowers.

One of the mules—of course, the animal carrying our box of stores—caused more than a little trouble by refusing to proceed at the usual decorous gait of a pack animal, but, with ears back and every indication of a brain-storm, insisted upon going at a quick trot, with the result that most of the others also became demoralized by the capers of the ill-conditioned animal and the rattling of tins in the box, so that our course was soon marked by a paper-chase trail of scattered rice, while an ominous white trickle down one side of the case on the ringleader's back told

¹ Santo Toribio, Archbishop of Lima, born 1538, died 1606, was only acclaimed locally as a saint, for his name will not be found in the Breviary among Rome's official canonizations.

² Among these I had the good fortune to collect an interesting new genus, a description of which will be published by Dr. Gleason in the *Kew Bulletin* in the course of the year.

with crystal clarity a mournful tale of the fate of an emergency bottle of gin.

To beguile the way, I had a long discussion with the chief muleteer about the practice of chewing the Coca leaf, a subject about which there still seems to be endless diversity of opinion. Certainly the Indians of the Chanchamayo region I have seen, who were addicted to the habit, had a drugged and degenerate appearance and a leaden, apathetic manner; but the muleteers, who tell me that they also have recourse to the comfort of the 'divine plant', are a tough, vigorous-looking quartet, who not only can walk for hours over the stiffest trails year in and year out, but also appear to be mentally alert and of at least average intelligence. It may be that, just as the chemical constituents of wine vary and wines derive their characteristic taste and bouquet from the soil and climate¹ in which vines are cultivated, so some Coca leaves, according to the variety of the plants and the district where they are grown, may be richer in cocaine and poorer in associated alkaloids; for it is important to remember that, although cocaine is the chief alkaloid, it is only one of those contained in the Coca leaf, and is therefore no more representative of the parent *taken as a whole* than hydrocyanic acid sums up *Manihot utilisima*² or prussic acid a peach. If this is true, it may be that the more bitter leaf, with its high cocaine content, is much more deleterious than the leaf from other districts containing a larger percentage

¹ For this reason pretentious trade names like 'Australian Burgundy' or 'South African sherry' are contradictions in terms. Burgundy can only come from the Burgundy district of France, just as sherry can only be produced in Spain in a restricted area round Jerez-de-la-Frontera, and these names applied to any other wines are therefore misleading descriptions.

² See p. 97.

of the associated sweet and aromatic alkaloids. In view of all that has been written for and against the habit, one fact appears to stand out, that the chewing of Coca¹ leaves by the Peruvian and Bolivian Indians does not, when habitually indulged in with moderation, produce any of the effects or sensations ordinarily associated with drug-taking, except the negative ones of absence of the normal need of and inclinations for food and sleep. The tremendous distances Indians can travel bearing heavy loads in high altitudes, with a minimum of sleep or food, provided that they have an adequate supply of Coca leaves has been described at length by all travellers to Bolivia and Peru. It is also a well-known fact that attempts made by the Spaniards to suppress the habit had to be abandoned because it was found that, deprived of their Coca leaves, Indians were incapable of the heavy tasks exacted from them, especially the vital one of working the mines in the Cordilleras. The practice certainly goes back to a very remote antiquity. In the Empire of the Incas, many religious rites were always accompanied by the throwing of Coca leaves to the four cardinal points, and the fourth Inca, Mayta Capac, bestowed the title Mama Coca upon his queen in honour of the 'divine plant'.

Michael, who had abandoned his efforts to assist the muleteers in coping with the vagaries of the temperamental pack-mule and was riding with us, made me

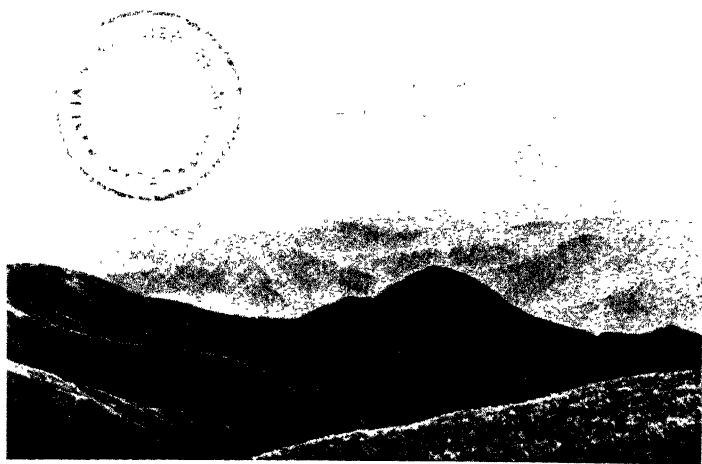
¹ W. Golden Mortimer, M.A., in his *History of Coca* (J. H. Vail & Co., New York, 1901) has collected an imposing array of interesting data on this highly controversial subject. The book is copiously illustrated and, with a bibliography embracing some 600 volumes and pamphlets, is a mine of interesting and suggestive information. It is this wealth of well-authenticated facts and the difference of theories advanced by authority which make it impossible for the layman to come to any definite conclusion on this very difficult question.



TYPICAL CORDILLERA TRAIL, HIGH ANDES



PACK MULES ABOUT TO CROSS BRIDGE WITH *TAMBO*, OVER
THE UTCUBAMBA RIVER



PANORAMA OF THE ANDES, TAKEN NEAR THE CALLA-CALLA
PASS



THE CACTUS FOREST, MARAÑON VALLEY, RIGHT BANK OF
THE RIVER

laugh by saying that in future he would always think of a charming old lady touring South America, whom he had met dining out in Lima, as Mama Coca. It appears that when the natives' Coca-chewing habits were being discussed, she remarked indignantly and with a kind of muddle-headed logic, that, as she enjoyed her cup of cocoa at night, she really did not see why the poor Indians should not enjoy theirs too. It reminded me of a pontifical utterance I heard at a luncheon party in London during the Abyssinian crisis, when the Balearics as a possible future Italian naval base were a kind of conversational bagged fox in political circles. Napkins were hardly unfolded before the whole field was in full cry and at the first mention of the controversial islands a vapid young thing looked momentarily dazed and then, feeling that she must keep her end up, remarked brightly with an air of crisp authority: 'The Balearics? Oh, of course! Majorca, Minorca, Alderney, and Sark!'

Discussions of Mama Coca and the Balearic Islands were interrupted by our arrival shortly after 10 a.m. at the Rio Negro.¹ Unlike its great namesake, this river is crystal-clear, swift-flowing, and not more than 10 yds. wide at this point, where it is crossed by a solid, well-built plank bridge. On the river's left bank we were delighted by the sight of literally hundreds of butterflies hovering above or drinking and sunning themselves on the moist sand and stones. None of the magnificently metallic morphos were

¹ This river, a small tributary of the Mayo River, has, of course, nothing to do with the great Rio Negro, which rises in the mountains of Southern Venezuela and flows into the Amazon about six miles below Manaos. This note might appear superfluous had not the Author once heard a—in some respects—well-educated man ask if Peru was the capital of Chile or if it was 'the other way round'.

here—in fact, although at least forty to fifty different species must have been represented, they were mostly rather small for the tropics, ranging in size from the diminutive blue butterfly of English chalk Downs to a large red admiral in bewildering multiplicity of form and colour. The river's brink was ablaze with flickering spots of rose madder, jade green, saffron yellow, and gentian blue, opalescent miracles of silver, lemon, and pink, black and emerald stripes, liquid copper splashed with crimson, grey-blue eyes staring from glowing orange wings, chestnut velvet barred with apricot, violet shot with scarlet and gold, every hue and every shade that ever came from painter's brush dancing in an ever-changing kaleidoscope of colour in the morning sunlight. Unhappily, the long day ahead of us made it impossible to linger and drink our fill of the unforgettably lovely scene. The muleteers were impatient and warned us that delay might prevent us from reaching Ushcu before nightfall.

Beyond the Rio Negro the forest becomes denser, as the trail begins to climb the steep *cuesta* leading up to the Ventana. Much of it consists of narrow ditches running between rocky walls, sometimes over 20 ft. high, worn down by the action of water and the passing of generations of pack-mules. So narrow are these little gullies by which we fought a way up the precipitous ravine that our animals' packs kept knocking and scraping the sides as they stumbled and struggled round hair-pin bends. Here only in very few places is it possible for mule-trains coming from opposite directions to pass. For this reason, the muleteers always advance, urging on their animals

with raucous shouts and untranslatable—or rather unprintable—admonitions and expletives of the ripest Spanish tradition, which certainly can be heard half a mile away, so that a possible oncoming party is warned and given time to halt their animals at a spot where it is possible to pass with safety.

On the way I collected a very beautiful little orchid, growing epiphytically on a rotting, fallen tree-trunk in densest shade. Baroness S——, high priestess of many a gilt-edged orchidaceous incest, whose husband has a famous collection of these exquisite flowers, had advised me, when I sat next to her at a luncheon party just before leaving for South America, to pay particular attention to any yellow orchid I might come across, so this retiring beauty of the Montaña, with a solitary amber-coloured flower¹ about 1 in. across each way, veined violet with a violet centre and waved fringe to its petals went hopefully into the collecting tin.

A strenuous climb of four hours, including a very hard stretch among slippery stones and boulders of the bed of the Rio Seco (the Dry River), which—knowing my Peru by now—surprised me by being true to its name, brought us at 2.30 p.m. rather tired and very thirsty to the summit of the Ventana, a dome-shaped mountain, its sides thickly clad with tropical vegetation. Since crossing the Rio Negro at 10.30, we had ascended over 2,500 ft. and from a break at one end of the little open glade where we rested and ate our cold meat and bread a glorious prospect opened at our feet of the deep, forest-clad ravines up which

¹ Afterwards identified as *Telipogon latifolius*, of which between thirty and forty species are known in tropical South America.

we had struggled, with some tall palm-trees showing in the foreground, falling gradually away in descending scale in a riot of tropical exuberance to the valley of the Mayo.

After half an hour's 'breather' for ourselves and the mules, we started off again. From here to Ushcu the going was bad beyond belief, with the animals half-way up their hocks in mud-holes on a trail struggling to hold its own among fallen trees, streams, and the invading jungle, steep ascents followed by equally abrupt descents, where the weary mules often stood hesitating whether to jump, slide or pick a precarious foothold, urged on by the threats and shouts of the indefatigable muleteers: Most of the afternoon I went on foot, finding that even with the loosest rein and making no attempt to guide the mule, walking was both a less tiring and safer mode of progress; but we were glad when, at the end of a twelve-hour day, just as the brief tropical dusk was beginning to cast its sudden chill upon the air, a few poverty-stricken huts straggling among patches of rude cultivation along a narrow valley announced our arrival at Ushcu. A short mile uphill brought us to to-night's caravan-serai, the local Telegraph Office, a thatched dwelling with a small gimcrack veranda and an outside flight of wooden steps leading to a loft with a mud floor above one side of the main building, where we were told we could sleep. Ushcu maintains a precarious contact with the outer world, meaning here Moyobamba in one direction and Chachapoyas in the other, by a solitary wire looped up on its erratic course to trees and anything else that answers the purpose. The Telegraph Office itself consists of one small room,

used as office, living-room, and bedroom by the Postmaster and his wife, who, when we arrived, was in bed with an infant twelve days old beside her making sounds like a half-strangled duck proper to its age. They received us with the simple courtesy which we have found is often one of the joys of travel in Peru, and after putting up our camp-beds in the loft and making it look as much like Miss Cooper's dressing-room as was possible with the limited 'props' we could command, Michael cooked some eggs and made some tea as a kind of hors-d'œuvre, after which we sat down and enjoyed a cigarette and a gossip with the Postmaster while the efficient Stanley finished cooking our evening meal of rice and chicken. Supper over, ending up with two large cups of hot, sweet black coffee, we turned in almost at once and soon fell soundly asleep.

Tuesday, August 16th

After the tropical atmosphere of the Mayo Valley the night seemed almost cold; but under our warm blankets we slept peacefully enough in the clean fresh air of Ushcu, faring better than Stanley and Adolfo, both of whom were badly bitten by ticks, which infest this part of the Montaña. Michael and I started off just before 8 a.m., ahead of the muleteers, who had camped with their animals lower down in the valley, where there is richer grazing. The muleteers told us last night that to-day will be a less arduous one, for we should reach our camping-ground before 2 p.m., which will give the animals a much-needed rest before

a very strenuous climb to-morrow, when we cross the Piscahuañuma Pass,¹ the highest point we reach between Moyobamba and Chachapoyas.

We started off rested and in good spirits, going immediately down a steep descent to the dry bed of the small Salas River, along which we walked for about a mile to a spot where the trail plunges into the forest on the river's right bank. Here we waited for the muleteers to catch us up and took photographs of the pack animals laboriously picking their way among the great boulders of the river-bed. After leaving the river we plodded up a terrifically steep and slippery *cuesta* for about three hours over the roughest going with the narrow zigzag trail completely hidden for more than a few yards in front of us by dense forest, so that the shouts of the muleteers, who were by then well ahead, seemed to come from the tree-tops above us. Near the summit a rich compensation for our efforts appeared in the form of a glorious group of orchids, an epidendrum on stems which could not have been less than 12 ft. high forcing a way to the light through a thick tangle of undergrowth. There were about a dozen stems in flower now, ending in a fork, upon each prong of which, closely set together, grew fifty to sixty flowers of a lovely velvet-like texture, of a dusky, reddish petunia colour with a buff lip, more than half of which had to be removed

¹ The usually most accurate Father Zahm ('H. J. Mozans') makes the curious error in his *Along the Andes and Down the Amazon* of describing by this name some high ground between Cajamarca and Celendin, and expresses a natural astonishment at seeing at this place, the name of which means in Quichua 'the Place where Birds Die', 'hundreds of birds of various species, some of them charming songsters, on the very crest of the Sierra'. Piscahuañuma, where we camped on August 13th, was intensely cold and no bird of any kind was to be seen there.

from the two specimens I collected to make it possible to press them.

From the top of the *cuesta* to our camping-ground the trail through the forest was nearly as bad as yesterday, though, being less precipitous, we were able, with constant mounting and dismounting, to ride short distances and enjoy for brief spells, without the necessity of watching every footstep, a perfectly enchanting stretch of forest full of palms and tree-ferns with the branches of every tree fantastically garbed with spiky bromeliads, mosses, and epiphytes, with now and then little open glades alive with patches of sunlight, very different from the oppressive gloom and drip of the jungle between Puma-yacu and Jesus del Monte.

About 1.30 the narrow trail suddenly opened out into a lovely grassy slope, surrounded by high hills, with a small stream, the Almirante,¹ perhaps 5 yds. wide, running swiftly along the lower side. The sky was rather overcast and a few drops of rain were falling, so with all possible haste we got our bivouac tent put up, merely a length of rough canvas stretched over a pole resting on two tripods like an inverted V, with just room for our camp-beds. The air was black with mosquitos and the muleteers told us that the long grass here is swarming with ticks which, we feared, boded ill for our night's rest.

Apart from these two drawbacks, this forest glade by the river's margin was a place of pure enchantment, with a riot of flowers which quite outshone anything

¹ This river, called here the Almirante by the muleteers, is almost certainly the Uquihua. In Peru it is quite usual for different stretches of the same river to be called by different names. Even the sacred Apurimac becomes the Ene in its middle course and the Tambo where it joins the Ucayali.

that I had hitherto seen in Peru. At certain places in the Rimac Valley in early May, masses of Heliotrope, flame-coloured Alonsoas, sheets of blue Lupins, Calceolarias, and Salvias had combined with many showy Compositae, such as Mutisiae, and Onoseris, to make a brave display, though never vying with the spring outburst of an Alpine meadow in Switzerland. But here in this Montaña Paradise, Kundry of the Enchanted Garden would have met her floral Waterloo and even Lady Byng of horticultural fame would have had to look to her laurels.

With imperial splendour of crimson and purple, Fuchsias¹ and Tibouchinas grew in a riot of glowing colours, on the ground, in crevices in the rocks, on the trunks of trees, perched athwart moss-laden branches, dripping in cascades of blood-red and Tyrian profusion. All round the fringe of the glade Daturas 12-15 ft. high, with great white pendant trumpets shining against a background of green, rose from among shrubby Senecios with trusses of orange flowers, and stately *Begonia arborescens* with scented white inflorescence also stood sentinel superbly at the forest's edge. The ground was carpeted with drifts of Ageratum and beside the Almirante's dancing waters an Abutilon with its delicately modelled white bells and a lavender-rose Hydrangea² grew in effective contrast. I also collected in this locality a very beautiful *Thalictrum*³ with cream-coloured flowers, *Miconia Matthaei* (Melastomaceae), an attractive shrub, *Gynandropsis hispidula* (Capparidaceae) with a panicle of brick-red flowers and beautiful grey-green tomentose leaves, *Salvia florida* (Labiatae), a scarlet-flowered

Fuchsia Hartwegii. ² *Hydrangea Weberbaueri.* ³ *Thalictrum longistylum?*

shrubby species of a family that is particularly well represented in Peru, and a splendid *Bomarea* climbing through the undergrowth to make a lavish display of its glorious trusses of blood-red flowers.

Luckily, except for a brief shower, the rain held off, for I had more than enough to do to get all the flowers I had collected labelled and pressed before nightfall, and I was thankful to be able to do the work sitting comfortably outside on a packing-case instead of crouching under a low tent trying to keep myself and the specimens dry.

Greatly to our surprise, mosquitoes ceased to trouble us at dusk and completely disappeared after sunset, so if ticks show the same consideration we should have a peaceful night.

Wednesday, August 17th

We both slept soundly without any attentions from the threatened ticks, which left us wondering if they are fastidious in their choice of blood (unflattering thought—to be rejected by a Peruvian tick!) or if they only infest the grass here at certain seasons.

After the usual turmoil and confusion of breaking camp, with the usual shouting and discussions, peppered with the usual oaths and over-ripe obscenities provoked by the breaking of girths and snapping of frayed cords, not to mention frayed tempers, with to-day an added complication of a mix-up with another mule-train, which also had camped for the night beside the river, packs were at last adjusted and every one ready to start just before 7 a.m.

The trail crossed the little Almirante and immediately we found ourselves again in the depths of the forest. For some distance trees on either side were ablaze with the same Fuchsias and Tibouchinas, and in one place masses of *Bomarea purpurea* with great trusses of blood-red blossoms made the bushes through which they grew look like flowering rhododendrons. I collected another exceptionally beautiful species, *Bomarea crinita*, with a smaller number of larger flowers on each truss, scarlet and yellow tubes nearly 2 in. long with the upper edge of the petals outlined with bright green. In some places the sides of the trail were gay with drifts of a rose-coloured *Polygonum*, and *Myrtaceae*, *Cavendishias*, *Begonias*, a beautiful *Solanum* with large white flowers, shrubby *Melastomads*, *Gesneriads* and ferns with bewildering variety of leaf-form all combined to produce that sensation of awe which the contemplation in a tropical forest of Nature's endless invention must give the most superficial and unimaginative observer.

At times, as in the forest after crossing Puma-yacu, gusts of perfume smote our nostrils, coming usually from the trees with small, inconspicuous cream-coloured or greenish-white flowers, and often for many yards the ground was purple, yellow or scarlet from the blossoms fallen from some giant hidden from our view by the tangle of green at death grips round its trunk.

As we began to work our way up a *cuesta*, which made the Escalera de Jesus seem like child's-play, tropical plant-life gradually yielded to sub-tropical growth. One of my most cherished memories of the ascent will always be of an enormous Tree Lupin,

over 10 ft. high, making a wonderful display of its periwinkle-blue flowers, with a thick stem covered with bark standing by itself on a precipitous slope in a gap beside the trail. A *Barnadesia*, a beautiful shrub with rose-coloured flowers growing on long thorn-covered pendulous branches, was common, also *Fuchsia pilosa* (Onagraceae) with small, bright scarlet flowers.

Half-way up the *cuesta* it began to rain. The mule with my mackintosh *poncho* was half a mile ahead, so that by the time we reached Bagasan, where the forest ends about 9,700 ft. up, a heavy downpour had soaked us to the skin. It would be hard to imagine a greater contrast than the scene where we camped last night beside the Almirante and this forlorn, wind-swept, moorland country near the top of the pass. This morning we were still in the steamy atmosphere of the dense forest, hemmed in on every side by luxuriant tropical growth. Here at an elevation of nearly 10,000 ft. we shivered in our wet clothes in the midst of bleak, desolate mountain-slopes covered with short, coarse grass, in which grew low herbs and many stunted-looking composite shrubs, usually with small tomentose leaves and rather inconspicuous white or yellow flowers.

Luckily, the rain ceased just as we left the forest behind us. A keen wind and bright sun quickly dried our clothes, so that by the time we reached Pischuañuma Pass ('the place where the birds die') in spite of being hungry and tired after nine hours' very stiff going, we were almost disposed to linger and enjoy the magnificent prospect spread out before us. But the muleteers urged us not to delay, so that we might

reach our camping-ground and have everything as snug as possible before nightfall.

The camping-ground, known as Ventilla, which lies on the Molinopampa side of the pass, is just a depression on the steep mountain-side near a diminutive tarn, which provides water for the mules and for cooking, and a small corral rudely built of stones, beside which grow two or three tall *Berberis* bushes tortured into fantastic shapes by the constant winds, and a single gnarled tree, *Hesperomeles pernettyoides* (Rosaceae) with small yellowish-white flowers making rather the effect of hawthorn blossom. The corral was already occupied by two men and a woman travelling like us to Chachapoyas, so the muleteers put up our little bivouac tent in the best place we could find, beneath the branches of the solitary tree. We saw at once that the steep slope of the ground and restricted space would make it impossible to sleep on our camp-beds. Luckily, the ground beneath the tree was fairly dry, so there was nothing for it but to make the best of things with our mackintosh sheets, blankets, and hot-water bottles; but the chill which fell upon the air at sunset and an icy draught which cut like a knife blowing steadily through a gap in the mountains above us brought to mind what we had been told at Moyobamba about the discomforts of spending a night near Piscahuañuma.

Thursday, August 18th

We rose just before daybreak to crouch over a small fire and drink a mug of hot, black coffee, thankful

that the night was over. In spite of our blankets and hot-water bottles, which had become like stones in less than two hours after being filled with boiling water, lying down in our clothes, huddled back to back for extra warmth, the cold was so intense that sleep was impossible. The night was clear, but the icy current of air blowing down the pass cut like a blast from a polar hell, and I understood as I never had before the meaning of the phrase to feel the chill of death in one's bones. Even the muleteers, accustomed to the hardships of the trail, cursed the place, and Stanley and poor little Adolfo, born and bred on the banks of a tropical river, suffered acutely. We crouched by the fire and waited, watching for a sign in the east. Gradually the distant ranges took shadowy shape and form until suddenly Light sighed and stirred in her sleep and primeval Darkness dropped like a veil from the mountain-tops. Sunrise here seemed a daily re-creation, a renewal of that First Day when Light shone upon a world still undefiled of man, a world still in the making where even beast or bird were not yet manifest. In sacramental silence, peak after peak to the eye's utmost limit stood out majestically in crown of golden light. Instinctively, we rose to our feet in homage, as those who sit and wait rise at the coming of the Sovereign.

Daybreak brought its usual routine and while the muleteers were occupied with their animals—one of which had disappeared during the night—and Stanley was preparing breakfast, I devoted the little time we had to collecting what plants I could find near our camp. These included a very beautiful *Senecio*, which grew here in large colonies in a very restricted area,

a herb not more than a foot high with solitary flowers resembling a giant Marguerite Daisy with grey-green Narcissus-like foliage, the base of which was covered with thick silky hairs like the leaves of the Silver Tree (*Leucodendron argenteum*) of South Africa. I noticed that mules do not eat this plant. The *Berberis* bushes were also bearing small racemes of orange flowers, and I was interested to find a semi-scandent *Calceolaria* growing through their branches. It must be an exceptionally hardy species to thrive at this altitude, about 9,000 ft. above sea-level, exposed to bitter winds, scorching sun, and frequent night frosts. One would expect it to prosper in English gardens had it not so often been found that Andean plants cannot tolerate frosts combined with the heavy moist atmosphere of the English climate. An interesting little *Halenia*, near *H. Rusbyi* (*Gentianaceae*), with green and yellow flowers was also common in this locality, as was a dwarf *Rubus* with raspberry-coloured flowers and many very sharp thorns, *R. acanthophyllos*. I also found one specimen of a terrestrial orchid, *Pterichis galeata*, which was frequent, growing in full exposures in moist places on the other side of the pass, where I had also collected two Alpine Melastomads, common in this locality, *Brachyotum confertum*, a low-growing shrub with minute leaves and attractive flowers with yellow petals and an old-rose tomentose calyx, and *B. lycopodioides*.¹

Soon after starting, we met the muleteer, who had set out in search of our absconding mule, returning with the truant, who had been captured by a party of

¹ There is an admirable drawing of this beautiful little Melastomad on p. 234 of Dr. Weberbauer's *Die Pflanzenwelt der Peruanischen Anden*.

Indians camping lower down on the mountain-side on her way home to Chachapoyas. In spite of the magnificent mountain scenery, the golden sunlight of early morning and the stimulating mountain air, I felt after yesterday's long climb, followed by a sleepless night, rather conscious that fifty is a milestone which I can only see by looking over my shoulder, especially as the trail was so littered with stones and boulders of every shape and size that one had to watch every step, which made a long and very steep descent extremely tiring.

Compositae were very numerous on this side of the pass, and I collected, among other things, on my way down, two attractive shrubby *Senecios*, one with bright yellow flowers and small, very dark green leaves, the other *Senecio vernicosus* with small shiny leaves with an extremely tomentose grey reverse and orange flowers, and a really beautiful *Liabum*, a shrub 3-5 ft. high, with white flowers like a large daisy and dark green, acuminate, sharply serrate opposite leaves. A shrubby *Baccharis* with dingy yellowish-white flowers and minute Box-like leaves, a *Diplostegium*, a low shrub with ericaceous-like foliage and inconspicuous pale lemon-coloured flowers, and a pretty little *Antennaria* 6-8 in. high with grey, acuminate velvety leaves and small dead-white flowers, also went into the collecting tin. *Hypericum laricifolium* (Guttiferae), a low-growing shrub with yellow flowers and foliage corresponding with its specific name, well shown on p. 235 of Dr. Weberbauer's book, *Paepalanthus Stuedelianus* (Ericaulaceae), a low herb with diminutive white flowers and leaves like an *Erica*, growing in colonies, and *Burmannia Stuebelii*,

a herb 10-18 in. high with Campanula-blue flowers, were all frequent, growing in full exposure.

We were glad to reach the valley of the Ventilla at the bottom of the descent and to rest and eat our midday meal beside the river, a pleasant, crystal-clear mountain stream, its banks fringed with shrubs and trees. From that point for three or four miles the trail follows the river's left bank through rich-looking pasture where cattle were peacefully grazing in scenes of almost English pastoral tranquillity, which changed with characteristic abruptness once more to typical Peruvian Cordillera conditions as our way started up a *cuesta*, which only ponies or mules bred to it would even have attempted. Clambering up the precipitous mountain-side, where the scarcely discernible trail often completely disappears on the rocky surface, I realized more than ever that the box-saddle of the country is the only possible one for riding up and down these incredible tracks, where only a goat or chamois would feel really at home. After many ups and downs, ending with a pleasant level two or three miles along the Ventilla's right bank, passing a little lake, on which were many ducks and other water-fowl, we arrived about 5 p.m. at Molinopampa. The place, which is just a village with an Indian and semi-Indian population, is situated on the river's left bank in a broad basin surrounded by thickly wooded hills and is rather picturesque and friendly-looking with its little thatched houses, large church, and grass 'streets' eaten close by flocks of small black-and-white sheep. A feature of the place is the masses of *Richardias* (*Arum* Lilies) which have naturalized themselves here even more luxuriantly than along the river below

Tarma and are now flowering in their thousands.

A young son of Señor Quiroz, the owner of our mules, had ridden here from Chachapoyas to meet us and had arranged for us to spend the night in a house belonging to the chief muleteer, who proudly boasted on the way here that his was the only house in Molinopampa not infested by ticks. It was just a barn-like space with windows, a mud floor, and two rude wooden beds at one end for Stanley and Adolfo, with plenty of room at the other for putting up our camp-beds. While Michael was brewing some coffee, I sallied forth to try to buy some eggs. After being rebuffed two or three times by shambling bundles of bright-coloured rags with the usual parrot-cry of '*No hay*', I succeeded in establishing good relations by the gift of 1*d.* to a cretinous-looking child with its mother and grandmother, who sold me twelve eggs and a freshly-made bottle of maize *chicha*, in the making of which they assured me that chewing had played no part, for the equivalent of 3*d.*

Rather to our relief, Antonio Quiroz disappeared early in the evening after a brief interchange of civilities, for we were both dead tired after two long days and a night without sleep and disinclined for the conversational game of questions and answers. As night descended swiftly upon Molinopampa, we were in the happy condition of wanting only two things in the world, both of which were forthcoming—supper and bed.

Friday, August 19th

Our muleteer host's proud claim that his was the only house in Molinopampa which was not infested

by ticks appeared to be true, for we woke unspotted to the world and started off at 8.30 in glorious sunshine with fresh mules and a new lot of muleteers. Just before the departure of the cavalcade, our host arrived to be photographed with his grim-visaged squaw and two hideous male offspring, spreading his tail, so to speak, in all the fifty-shilling splendour of a double-breasted blue suit with a white line in the material. Clad in his *poncho*, breeches, and wide straw hat, he had a certain rugged picturesqueness, but in shoddy ill-fitting town clothes, unshaven and with bare feet, he looked like nothing on earth.

On the outskirts of the village a comely wench, with a moist lip and unvirginal eye, and a pink rose set with coquetry in her blue-black hair, came to take leave of Antonio Quiroz, who was riding with me on a big white mule. I wondered if she were the explanation of his early disappearance last night, for he smiled condescendingly on her with the pragmatical assurance of an accepted lover, while she seemed to sun herself in all

The glory to have pierced a swain
For whom inferior beauties sighed in vain.

For the first part of the ride the trail, with a steady upward gradient, followed the right bank of the Ventilla River, which wound along the base of a towering cliff on the opposite bank. Beyond, to the eye's utmost range, dark formidable gorges with water-scarred perpendicular sides, where not even a goat-track goes, cradle in silent austerity the river's birth. The scene brought irresistibly to mind Goethe's immortal lyric:

DIARY OF THE EXPEDITION

Kennst du den Berg und seinen Wolkensteg?
Das Maultier sucht im Nebel seinen Weg;
In Höhlen wohnt der Drachen alter Brut;
Es stürzt der Fels und über ihn die Flut,¹

the atmosphere of which Arnold Böcklin has caught with such complete success in one of his most imaginative pictures in the Museum at Bâle—a party of muleteers flying in terror at the sudden apparition of a prehistoric monster from the depths of a gloomy cavern.

The sinister mountains at the valley's end, bare of cultivation or human dwelling, seemed to stand sentinel before some jealously guarded secret, challenging the adventurer to wrest it from them at his peril.

Suddenly the trail left the river and turned up a terrific *cuesta*, going over a kind of rough-hewn staircase of rock strewn with great boulders, where only a llama, an Andean-bred mule, or a Cordillera Indian could have passed carrying a heavy pack. The trail ultimately brought us to another valley through which the Soloco River flows. The going along this river was a pure joy, with masses of a very floriferous *Tillandsia* with pinkish-heliotrope flowers growing epiphytically on many kinds of trees on both banks of the river. Custard-apple trees, covered with fruit, the product of each tree worth £5 to £10 in Bond Street and literally nothing beside the Soloco, grew here luxuriantly. The origin of *Anona*

¹ Knowst thou the mountain?—high its bridge is hung
Where the mule seeks through mist and cloud his way;
There lurk the dragon-race, deep caves among;
O'er beetling rocks there foams the torrent spray.

Translated by MRS. HEMANS.

A FORGOTTEN RIVER

*cherimolia*¹ is believed to be in the mountains of Peru and Ecuador, for the specific name is a corruption of the Quichua word *Chirimuya*, meaning 'cold seeds', and clay models of the fruit have often been found in ancient Peruvian burial-grounds. It was probably introduced at a very early date into Central America, where it has become naturalized. Unfortunately, it never ripens properly on the trees, but has to be gathered and kept for a few days. It is one of the most pleasant of sub-tropical Peruvian fruits, with its juicy, aromatic, custard-like pulp, in which are embedded oblong black seeds, resembling large apple-pips, and it was tantalizing after our stiff climb up the *cuesta* to see trees laden with fruit which we knew was uneatable. As we went along I collected a few specimens, including an *Embothrium*, some *Solanums*, and a particularly beautiful orchid, an *Epidendrum* with a very large truss of brilliant apricot-coloured flowers on a stem over 2 ft. high. We crossed the river three times by well-constructed bridges covered by *tambos* to give shelter to benighted travellers having to sleep here through being unable to reach Molinopampa or Chachapoyas, finally reaching on the river's left bank the steepest *cuesta* of all. Here the vegetation had completely changed and we were once more in a Cactus zone, with enormous *Opuntias* and *Cereus* 12-15 ft. high with fluted stems standing isolated on the barren-looking, precipitous mountain-sides.

¹ So far as I know, Malaga, where there is never a frost, is the only place in Europe where *Anona cherimolia* ever matures its fruit. A tree in my garden in the south of Spain never fruited, whereas *Feijoa Sellowiana* (Myrtaceae) indigenous to the forests of Southern Brazil and parts of Argentina regularly set and ripened its delicious fruits with a taste compounded of pineapple and strawberry. The latter shrub, grown in a sheltered position, flowers in many English gardens.

Even though my mule was a powerful animal and had only done the short journey from Chachapoyas yesterday, the pull up this *cuesta* was so severe that I preferred to toil up on foot in the blazing sun rather than trust myself to the mule, where one false step would almost certainly mean a broken limb or worse. Conditions were obviously almost exactly the same when Raimondi travelled over this old trade route in 1868, for he says that certain sections 'passed the limits of bad and could only be described as horrible', and he adds that then as now it was much safer for the traveller to walk than ride.

After reaching the top of the *cuesta*, a rough but easy switchback road brought us at about 4 p.m. to Chachapoyas. In spite of being the capital of the department of Amazonas, the seat of a bishopric and having between 9,000 and 10,000 inhabitants, Chachapoyas is little more than an overgrown Indian village, in which a large *plaza* and a cathedral have a rather incongruous appearance. The town was founded about 1536 and has been severely damaged by earthquakes, the last time in 1928, when all the churches and most of the ramshackle, adobe-built houses were destroyed. It is a pleasantly situated place in a depression in the midst of the great Cordilleras about 7,600 ft. above sea-level, with a healthy climate and a mean temperature of 62° F. The streets are narrow and cobbled, with a gutter running down the middle and the usual little mixed stores and squalid, derelict houses built of whitewashed adobe with tiled roofs and balconies. Culture, however, has provided the little town with electric light, two strident radios installed in the *plaza* which compete with each other

at the same time, and an 'attraction' in the form of a pantomime motor-car, brought to Chachapoyas in pieces on the backs of mules, put together after a fashion with a comic body, and available, when it is full to overflowing, but not before, for a drive twice round the *plaza* on the payment of the equivalent of 2*d.*

We have two upstairs rooms in the nearest approach to an inn which Chachapoyas can provide. When we arrived, they were completely empty, but gradually tables and chairs, two tin jugs and basins and at a late hour two cultural necessities, all brought from Cajamarca by mule, arrived in response to our insistent demands. Michael's room looks out on the *plaza*, mine on the open *patio* round which the house is built. The evening meal was not too bad, although the squalor and discomfort of the place are typical of a Peruvian Cordillera town. However, after sleeping on the ground at the Ventilla and last night in the muleteer's house at Molinopampa, our surroundings here seem almost luxurious.

Saturday, August 20th

Spent most of the morning, after rising early and changing the paper in which the specimens were pressed, in trying to get clean, although the only water Chachapoyas can at present provide is so dirty that it rather cramped our style. We are told that pipes are in the process of being laid to provide the town with a decent water supply and that the work will probably

be finished when funds are available. However, it was bliss once more to sit in a warm puddle in our canvas bath and, anyhow, *feel* clean again.

Stanley and Adolfo are both loud in their criticisms of the dirt and squalor in which the Cordillera Indians live, and a visit to the market-place is not calculated to make one esteem their habits more highly, although some of the women are by no means ill-favoured when young and most of them carry themselves well from habitually walking with baskets balanced on their heads. The men are rather picturesque in their brown, black or dark green *ponchos* and wide-brimmed straw hats, but on the whole did not appear to justify the derivation of the name of the town, which means in Quichua 'the place of strong men'. Spanish is universally spoken, although now and then I heard conversations in a strange tongue which I imagine was Quichua. In the market here for the first time I saw offered for sale *chunu* or *chuno*, a shrivelled, unappetizing-looking, though very nourishing, preparation of potato. It is usually made by the simple process of soaking potatoes in water for several days, expressing the moisture and exposing the pulp to the action of frost. The common potato, *Solanum tuberosum*, the descent of which is an extremely complicated and controversial question, for it has never been found in its wild state,¹ even where closely allied species grow, had its origin in the Andes of South America. If not a native of Peru, it must have been introduced at a very early date into the Inca Empire, for at the time of the Conquest it was cultivated in all the temperate regions of the Pacific

¹ Cf. the impossibility of determining the ancestry of cultivated wheats. Even a presumed wild variety found in Palestine, believed to be an ancestor, may be a degenerate descendant escaped from cultivation.

coast, from Chile to New Granada, and had a place in the ancient harvest festivals and agricultural ritual of Peru. The fact that it is now widely distributed in Peru is not absolute proof that it really originated in that country, for centuries ago the Indians of the Inca Empire built terraces and cultivated their crops in what to-day appear most unlikely and inaccessible places, and, once established, the plant would probably not only persist, but tend to spread.

The tuber was introduced by the Spaniards into Europe about 1570 and afterwards into the British Isles, probably by Sir Walter Raleigh, who is said to have planted it on the estate which he acquired in Ireland in 1585 after his return from the Spanish Main. As early as 1572 *Solanum tuberosum* was cultivated in the neighbourhood of Seville. In 1587 the potato is known to have been grown in a garden at Breslau and by 1588 Clusius in Vienna had received both tubers and seeds.

Although its cultivation in the New World must be of immense antiquity, the earliest mention of the potato is by Peter Martyr, 1514. It is, however, possible that Martyr may be writing of the sweet potato (*Ipomoea batatas*), although, as he states that *I. batatas* was cultivated in Honduras and even gives the names of two varieties, it would appear unlikely that he would have made a confusion between these two botanically unrelated tubers. In reference to the period of the discovery, Peter Martyr¹ writes that the Indians of Darien 'dygge also owte of the ground certeyne rootes growynge of them selves, whiche they

¹ Peter Martyr de Anghiera, *The Decades of the New World or West India: written in the Latin tongue and translated into Englyshe by Richard Eden*, London 1555.

caule *Betatas*, much lyke unto the navie rootes¹ of Mylane, or the greate puffes or musheroms of the earth. Howe soo ever they bee dressed, eyther fryed or sodde, they gyve place to noo such kynde of meate in pleasant tendernes. The skyn is sumwhat towgher then eyther of navies or mussheroms, and of earthy coloure: But the inner meate therof, is verye whyte. These are noorysshed in gardens'. If Martyr's description refers to the sweet potato, *Ipomoea batatas*, then Costellanos in 1537 can probably claim priority as the first European to describe *Solanum tuberosum*.

One of the first known pictorial representations² of *Solanum tuberosum* is a woodcut in Gerard's *Herbal*, 1597, a rather fanciful and graceful, but perfectly recognizable drawing. In this same *Herbal*, Gerard himself, with his pointed beard and keen, sensitive face, in all the glory of ruff, full sleeves, and doublet, has chosen to be figured holding not a lily, rose, or gilliflower, but a blossoming spray of the humble potato, which he enthusiastically describes as being 'a foode as also a meate for pleasure, equall in goodnesse and wholesomnesse unto the same, being either rosted in the embers, or boiled and eaten with oile, vineger and pepper, or dressed any other way by the hand of some cunning in cookerie'.

At Chachapoyas, hands 'cunning in cookerie' are conspicuous by their absence, and a peep into the kitchen of our inn is not calculated to stimulate a jaded

¹ Navie rootes, an old English name for turnips, an obsolete form of *navew* and *navet*. The form *navew* was once commonly used and possibly is still retained in remote country districts.

² At Antwerp a water-colour is still preserved in the Musée Plantin-Moretus, sent by Philippe de Sivry to Clusius, representing a spray of *Solanum tuberosum* with fruit, flowers, and two tubers. The date, inscribed by Clusius himself, is 1588. He calls them *Papas Peruvianum* and also uses the Italian word *Taratouffi*, from which the German *Kartoffel* is derived.

appetite, for the familiars of the hearth, in addition to the usual family of rat-like, prolific guinea-pigs, include a woman without a nose and an Indian with greasy curls like a Polish jew, clad in a filthy old *poncho*, who, I am convinced, after being bathed in all the scents of Arabia, would still stink like a polecat.

The air of Chachapoyas is cold at nightfall and in the early mornings. Perhaps I feel it more than I should after the steamy heat of Amazonia, for I find comfort here in a hot-water bottle at night.

Sunday, August 21st

The rumour of the arrival of two Gringos at Chachapoyas begat a lively interest in us in every one with something to sell, with the result that during the morning we were offered as desirable purchases a pair of blear-eyed owls, straw hats of diverse shapes, saddle-bags, a naked baby monkey about 6 in. long, which lay on the palm of the would-be vendor's hand crying piteously, some hideous, coarse lace squares, worse than the worst which Malta produces, hand-woven *ponchos*, of which we bought two, bed-spreads embroidered in wool in the vivid colours which Indians love, and a full-grown monkey, which the owner, with a shockingly under-developed maternal instinct, declared she 'loved as if it were her own child' and was prepared to exchange for the equivalent of 12s. Three professional beggars, who were lying in wait for us conversing cheerfully in the courtyard below our rooms, switched on a heartrending professional whine the moment we appeared, and children

who had heard that we had actually been seen gathering common wild flowers, appeared with drooping bunches of rubbish from local gardens tightly clenched in hot little fists.

Michael decided to hire a mule and go off for the day with the camera and a packet of sandwiches. I started off about the same time with a collecting tin to explore the wooded mountain-sides above Chachapoyas. The country was very burnt up and dusty and the ground baked as hard as a brick, reminding me of the Sierras of the south of Spain in August and September. Much of the ground immediately above the town is under cultivation, with practically nothing in flower there at the moment, though I collected four herbs, all with small, bright violet flowers, *Lythrum maritimum* and *Cuphea ciliata* (Lythraceae), *Stemodia suffruticosa* (Scrophulariaceae) and *Arctophyllum ericoides* (Rubiaceae), two Calceolarias and *Gardoquia sericea* (Scrophulariaceae) with pale flame-coloured flowers and small grey leaves, none of them of any interest from a horticultural point of view, though characteristic of the flora of this region at this season of the year. Higher up, a rather handsome and very floriferous Composite, *Eupatorium inulifolium*, was extremely common, as was *Rubus floribundus*, a rampant grower with pink flowers resembling our English bramble. I also collected an interesting little terrestrial orchid, *Trichoceros parviflorus*, like the 'fly orchis', *Bejaria Mathewsii* (Ericaceae) with rather large, bright rose-coloured flowers and the characteristically viscous leaves of the genus, *Cantua quercifolia* (Polemoniaceae) with cream-coloured flowers, well named for its oak-leaved foliage, *Cavendishia Beckmanniana* (Ericaceae),

a handsome shrub, here 10-12 ft. high with bright green acuminate leaves and terminal corymbs of crimson flowers with green tips, and *Embothrium mucronatum* (Proteaceae), a very beautiful 4-8 ft. shrub with grey-green ovate leaves and cream-coloured flowers, as common here as *E. grandiflorum* with pink flowers is on the hill-sides between Huanuco and Carpis. On the way back, I picked a bunch of orchids, a pale lilac Epidendrum, of which a large patch was growing on the ground near the top of a containing wall, with a slightly guilty feeling as though I were robbing the orchid-house at Kew, and might be apprehended, for where orchids are concerned I still have the mentality of those who can only think of macaws in relation to a perch and a chain round one leg.

Monday, August 22nd

Antonio Quiroz arrived early to tell us that the mules will be ready to start at 7.30 a.m. to-morrow on the Chachapoyas-Celendin stage of our journey. At the latter place a new road, which we understand is possible for, though hard on the engines and springs of, motor traffic, links up Celendin with Cajamarca of historic memories. This stage of the journey is one to which I have always looked forward with the liveliest interest, for the fourth day out from Chachapoyas we cross, some 3,000 miles from its mouth, the greatest of all the world's great rivers, the Amazon.

We spent the morning making the usual purchases to replenish our travelling larder and store-room, labelling and changing the drying paper of plants

collected here, packing up our travel-stained belongings and taking photographs of the picturesque Indian types gathered round the market-place.

In the afternoon we went to say good-bye to the Prefect, an exceptionally pleasant-mannered, intelligent man. He bewailed the isolation of this part of Peru through absence of communications with the outside world and expressed an opinion that the large sum of money being spent on building the road to link up Tingo Maria with the Ucayali would be better devoted to engineering a highway to establish direct communication between Chachapoyas and the Marañón (Amazon) at a point below the much-dreaded Pongo de Manseriche. As long ago as 1870, a Señor Wertheiman made a journey from Lima to Chachapoyas with the object of studying the best line this road could take, following an expedition which had set out eleven years previously led by the energetic Bishop Ruiz, to explore the terrain with the same object. But the road remains unmade for the excellent reason that the poverty of the sparsely-inhabited Cordilleras and the enormous cost of engineering and keeping up such a road still make it economically impossible. The good Prefect, in his enthusiasm for the advancement of the district over which he presides, reminded me of officials all the world over, who, provided that their particular department offers no angles to the wind, often wax eloquent on the theme of economy.

Chachapoyas is most fortunate in its Prefect, unlike a Montaña townlet through which we recently passed, where a rascally official, unable to sell a large accumulation of empty petrol tins, had them placed two or three at a time in his otherwise empty office so that

locals coming to see him on business inevitably had to use them as chairs. At the end of an interview the poor wretches were made to pay the equivalent of 1s. for 'damaging' a tin and allowed as an act of grace to take it away with them.

The day ended with a cinema show arranged by the Prefect in our honour. The long, narrow hall was packed to capacity with stinking Indians thoroughly enjoying a free 'movie'. The film, which featured Lake Titicaca and the lives and occupations of the natives inhabiting its shores, might have been interesting had it not so often stuck, faded out entirely or appeared upside down. However, the audience was as enthusiastic as the Albert Hall in pre-War days when Melba gave one of her 'positively last' farewell concerts, and greeted each appearance on the screen of the Prefect with salvos of applause.

Tuesday, August 23rd

We left Chachapoyas at 8 a.m. accompanied by Antonio Quiroz, who had to visit one of his father's farms in the Utcubamba Valley, where they grow sugar-cane. The mule I am riding is a big upstanding animal, a little inclined to stumble, Michael's is a smaller but very sure-footed little beast. A long steep *cuesta*, exactly like those we had ascended after leaving Molinopampa, led down to the river. The Utcubamba, which where we first saw it is about 15 yds. wide, rises in the high Cordilleras south of Leimebamba not far from the Calla-Calla Pass, which is almost due south of Chachapoyas. Thence it flows

roughly north-west and empties into the Marañon north-east of Jaen above the Pongo de Rentema, dropping some 9,000 ft. on the way. At the point where the trail reaches the Utcubamba the river is clear and swift-flowing, running through a narrow valley, the steep sides of which are covered with scrub and low trees. The muleteers, with their animals, crossed to the river's left bank by a large, solid *tambo*-covered bridge, which is easier for the pack-mules than the rickety suspension bridge higher up the river, and followed the old trail. We rode along the river's right bank, where a stretch of new road, destined one day to link up Chachapoyas with Cajamarca, but still only in the initial stages of construction, more or less follows the river's course, until we reached the little suspension bridge where Antonio Quiroz took leave of us.

The remainder of the day was a pure delight, following all the time the Utcubamba's course, with both banks thick with a gentian-blue *Salvia* with velvety, very aromatic leaves, effectively growing with that ubiquitous Peruvian weed, *Asclepia Curasavica* (Asclepiadaceae) with its orange-red flower-heads, and in many places patches of a small canary-yellow *Calceolaria* brightened the river's margin. The trees in many places were thick with the same *Tillandsia* with heliotrope-coloured flowers that grew so exuberantly between Molinopampa and Chachapoyas. Custard-apple trees were also common here, with the curious difference that in this valley they were in full leaf, whereas on the other side of the divide the fruits were hanging on bare branches. My one great disappointment in the Utcubamba Valley was

the scarcity of orchids in flower, for Mozans, in reference to this locality, wrote that 'every ledge of rock, every tree and bush, even every thorny cactus, was laden with them and seemed but a blaze of rose and purple and lavender. Nowhere else had I ever seen such magnificence of orchid life, and never did I so long to make a collection of these floral beauties'. But Mozans passed this way at a different season.

We were very interested and rather excited to see growing in several places, although restricted to only a quarter of a mile of the river's course, a minute double shell-pink rose¹ with the true Rose de Provence perfume. I know that the genus is not represented in Peru, but it looked so happy and so completely in the picture with large, straggling bushes covered with flowers growing by the river's brink that I hopefully collected it, although the presence of small patches of cultivation no great distance away suggested the possibility of a well-established 'escape'.

Nightfall brought us to a pleasant spot beside the river, with plenty of food for the mules and a diminutive *tambo* which gave us all the shelter we needed. Some travellers spend the night of this stage of the journey at the little farm of Chillo up on the mountain-side; but when the muleteers told us that there might be insufficient water there for the animals, as the river's bank on a fine night seemed an ideal place to rest, we gladly accepted their suggestion of camping there.

¹ Pronounced by Kew, speaking *ex cathedra* on botanical faith and morals, to be an escaped garden variety.

Wednesday, August 24th

At 7 a.m. we started off again up the valley, still following the Utcubamba's right bank. It was almost dank and chilly in the shade beside the river; but by 10 a.m. the blazing sun beating down on the narrow valley made us grateful for those rare sections of the trail which were overhung by trees. Our path consistently followed the river's bends, except where small gorges forced us to take a switchback course up and down the steep mountain-side. Looking at the Utcubamba from above, the water was so clear that the stones on the river-bed were as distinct as though seen through well-polished glass.

During the morning we saw five condors soaring superbly with no perceptible wing-movements, circling gradually lower and lower, gathering, we imagined, to some invisible feast. Darwin in *A Naturalist's Voyage round the World* describes some interesting experiments which he made with the object of determining whether a sense of smell helps these birds to locate a dead animal, and came to the conclusion that they depend entirely upon sight to guide them to their revolting banquets. The condor is the largest of all vultures and birds of prey, sometimes with a wing-spread of over 12 ft., and it is a really magnificent sight to see these splendid birds, which have the distinction of appearing in the coats of arms of Bolivia, Chile, Colombia, and Ecuador, wheeling and floating majestically in space. Even on the ground, they look less repellent than many other vultures, although the bare neck (ringed with a collar

of white feathers in the adult male) is always an unpleasant feature of a carrion bird, which, except when soaring, has not, as Spruce so truly wrote, the noble aspect of the golden eagle.

All day the river had been gradually becoming narrower and swifter-flowing, as we worked our way up the interminable valley. Each bend, as the mountains closed in more and more, looked as if it must be the last, but, instead of Leimebamba, every turn and twist of the river revealed but another stretch of the trail. The day seemed desperately long. Adolfo, who, since a slight attack of fever after leaving Rioja, has been glum and despondent, rode one of the pack-mules, to which he clung like a monkey, happy not to have to walk, but fearful from being for the first time on an animal's back. Stanley, who had cut his foot badly on a sharp stone and was dead lame, lagged far behind. At last after six o'clock when dusk was coming on apace we crossed to the Utcubamba's left bank, rode up a steep incline and found ourselves, rather tired after an eleven hours' day, in Leimebamba. The village has probably not altered at all since Lieutenant Maw spent a night there over 100 years ago and was entertained by the mayor of the place, who, he wrote, gave them 'a share of his *rancho*, with several other animate and inanimate things that had previously got possession'. Maw's comment on his host's residence was that 'an Irish cabin would have been both clean and orderly in comparison with this magistrate's *rancho*'.

Leimebamba is still a poverty-stricken, squalid little place with the usual disproportionately large, musty, jerry-built church and square village green,

dignified by the name of *plaza*, round which the only houses with pretensions to be anything more than huts are built. The house where Antonio Quiroz had told us that we should be able to pass the night was bolted and barred, as the owner was absent for some days in Celendin. A desperate hunt round for night shelter brought us to the house of the schoolmistress, who, on the production of our letter from the Peruvian Minister in London, gave us permission to spend the night in the boys' school-room, a filthy place with a mud floor infested by fleas and ticks. The limping Stanley had not yet arrived—the first time he had failed us since leaving Yurimaguas—and Adolfo, for some obscure reason, possibly fear of having to act as *chef* in Stanley's absence, had elected to clamber down from his mule about a mile out of Leimebamba and wait for Stanley. Supper was a matter of urgency, so, while Michael was seeing to sleeping arrangements, I went on a voyage of discovery and was lucky in finding a very pleasant and most efficient woman who consented for the equivalent of 1s. to cook our supper. I also purchased from her small son a formidable-looking rooster to be cooked to-night for us to take with us for to-morrow's evening meal. I only paid 1s. for the bird, but I think that sum must have been considerably in excess of local prices, to judge by the excitement with which the urchin ran to his parent, crying out: 'Mother! Mother! I have sold the cock to the Gringo for a shilling.'

Michael cleverly arranged his camp-bed on the top of two school forms, placed side by side, in order to sleep above the highest leap of the most vigorous flea; but the place filled me with such loathing that I

decided, as the night was fine, to sleep outside and had our two collapsible chairs arranged as an impromptu bed under the eave of a house on the village green.

Before settling down for the night, we decided not to take Adolfo any further with us, in case he should fall ill in the high Cordilleras, so we arranged to pay a small board and lodging fee for him to the woman who cooked our supper, and she promised to look after him until Stanley's arrival on his return journey to Yurimaguas. We shall not be sorry to see the last of Adolfo, for since leaving Rioja the poor lad has been no help to Stanley and only an anxiety and responsibility to us.

Thursday, August 25th

Considering that Leimebamba is nearly 7,000 ft. above sea-level, the night was not cold and I had enjoyed over five hours consecutive sleep when I was roused at 5 a.m., just before dawn, by a chorus of crowing cocks, bleating sheep, and grunting, scavaging pigs.

We were glad to leave the squalid little townlet after saying good-bye to Adolfo and recommending him to 'behave' during Stanley's absence. He seemed quite cheerful at the prospect of a few days' rest, and the woman in whose care we have left him appears to be a motherly soul, with a brood of lively children. Probably the presence of a stranger from the Montaña in their midst for a few days will be a leaven in their monotonous lives.

The day began with a steep pull up a long *cuesta* leading through gradually thinning forest straight up to the Calla-Calla Pass, with an enchanting mile of almost level ground about two-thirds of the way up, where the trail leads through a narrow, grassy valley beside the clear, rippling beginnings of the Utcubamba. In one place a large purple Iris, looking like an old garden form of *I. aphylla*, had naturalized itself and was growing luxuriantly in great drifts. The genus Iris is not represented in Peru and I did not even collect a specimen of this one, for it was so obviously an escape, in spite of growing out of sight and some distance from human habitation, although in a pleasant, well-watered site, where a dwelling most probably once stood. At the beginning of the little valley the forest ends abruptly and where the level stretch finishes the *cuesta* rises very sharply to the top of the pass making walking at this elevation rather an effort. Near the summit *Ranunculus Guzmanni* 6-8 in. high with orange-scarlet flowers was growing in abundance. I collected too a very handsome *Siphocampylus*, which also grew near the top of Piscahuañuma Pass, *S. Jelskii* (Campanulaceae) with striking rosettes of narrow, acuminate Echium-like leaves and claret-coloured flowers, *Bomarea setacea* (Liliaceae), a non-scandent species about 18 in. high with brick-red flowers growing very high up in the shelter of a low shrub, lovely blue-flowered *Eccremis coarctata* (Liliaceae) which I had also found at Carpis, the same handsome Senecio the large Marguerite-like flowers of which delighted me where we camped at Ventilla, and a shrubby *Calceolaria* with small yellow blossoms and leaves so reduced that they looked like the foliage

of an *Erica*. The extraordinary adaptibility of the genus *Calceolaria* has often struck me forcibly when seeing the remarkably contrasted conditions in which it prospers in Peru. I have found a dwarf species growing in Alpine pasture, in an exposed position at some 11,000 ft. up in the Rimac Valley; drifts of another, *C. verticillata*, on the sun-baked rocky slopes above Canta; yet another growing along irrigation ditches below Tarma with its roots in the water; another in the crevices of a dry containing wall above San Mateo; the lovely *C. Pavonii* with large velvety almost sagittate leaves luxuriating in the tropical rain-forest and a scandent form happy on our inhospitable camping-ground at Ventilla, to mention only a few species. Roughly four-fifths of a genus comprising between 250 and 300 species are natives of Peru and Chile, especially of the latter country: the remaining fifth come from Mexico and Central America.

The summit of Calla-Calla—the Pass of the Great Silence—nearly 14,000 ft. above sea-level, has an evil reputation on account of an icy wind which has shortened the life of more than one traveller caught wet and insufficiently clad on its barren, exposed heights. But to-day, although the wind had an undertow of menace and the air was keen enough to make me glad that I was wearing a wind-jacket and *poncho*, the sky was clear and the sun shone upon a panorama which no pen could describe and no brush hope to paint. In a faint blue haze like the dawn of an Annunciation, as though virgin from Creation's forge, mountain piled upon mountain and peak rising behind peak stretched out in overwhelming majesty before us to vision's utmost range, cradling behind

those misty recesses of a world still in the making the secret birth of that mighty river whose waters we hoped to see before sunset. Standing on the summit of the Pass of the Great Silence, all words shrivelled and died, as words must in the presence of eternal things. And as we mounted our mules and started on the way which leads down to the valley of the Amazon, that brief ecstasy of the spirit began to fade, while music of majestic beauty threw a bridge across the gulf that separates two worlds of experience and helped us to stumble back from the dream to the business:

Thin, thin the pleasant human noises grow,
 And faint the city gleams;
 Rare the lone pastoral huts—marvel not thou!
 The solemn peaks but to the stars are known,
 But to the stars, and the cold lunar beams;
 Alone the sun arises, and alone
 Spring the great streams.

After descending rapidly for about three-quarters of an hour, we halted and ate our midday meal, sitting on short Alpine pasture beside a little mountain brook, hurrying to its Nirvana in the Amazon. Here another *Calceolaria* was growing, one of the most beautiful members of the genus I have ever seen, a shrub 4-5 ft. high with large trusses of bright buttercup-yellow flowers and rather tomentose ovate-acuminate leaves with a russet reverse. It is probably nearest *C. cerasifolia*, though certainly not a variety of that species. Below this point the vegetation became more and more luxuriant with many terrestrial orchids, *Oncidium*s and *Epidendrum*s, including the showy yellow *O. excavatum* with canary-yellow flowers.

Lupins appeared again, quantities of a yellow, shrubby Bignonia, and in places the branches of every tree and bush were covered with the scarlet tubular flowers of a lovely parasite, a Loranthus.

The trail was dry and the going easy from the place where we lunched as far as the spot where we crossed the very clearly marked divide into the Marañon (Amazon) Valley. Here a very steep drop (*bajada malissima*, as the muleteers called it) began, with so bad a surface that riding was out of the question. We dismounted and let the mules take their own line, while we slid and stumbled and felt our way down the loose, stony surface of this Andean highway, until, turning a shoulder of rock, we suddenly caught our breath; there, still a five hours' walk below us, a tiny silver thread wormed its inexorable way through the mountains that would hem it in—the Amazon.

Below this point I collected specimens of three interesting plants, *Delostoma Lobbii* (Bignoniaceae) a tall shrub with greyish-green foliage and characteristic tubular, claret-coloured flowers, *Bougainvillea peruviana* (Nyctaginaceae), here a tree about 20 ft. high with pinkish magenta bracts, and a cousin of the coffee plant, a *Remijia* (Rubiaceae), a small tree with scented white flowers and small, rather shiny coriaceous leaves.

Just before dusk we arrived, very tired, at the farm of Huilco, a dirty little shack situated on a small piece of level ground on the mountain-side, complete with a derelict old *tambo*, full of fleas and ticks, with holes in its thatch, where we were told we could spend the night. An inquiry about eggs for sale met with an immediate 'No hay' reply; but the fantastic offer of 2d. an egg apparently persuaded three accommodating

hens immediately to lay three small ones, and the woman of the farm was so overcome by this stroke of big business that later on she produced gratis a plate of cooked yuca. The *tambo* was a filthy place and I decided to have our two chairs arranged again as a bed, although a shower of rain just as we had finished supper, which instantly came through the thatch, made us doubtful about our prospects of spending either a dry or peaceful night.

Friday, August 26th

During the night only a few showers of rain fell, causing us but little inconvenience compared with a large hen roosting above us with a half-grown brood, which kept tumbling from their perch on to us to an accompaniment of flapping of wings and frenzied squawks from their harassed parent.

After a few hours of rather disturbed sleep, we rose at 4 a.m., breakfasted by our camp-fire and set out, when it was still dark, ahead of the mules down the steep descent which leads to the Marañon, picking a way over the worst parts of the trail by the aid of our electric torches. For the first part of the descent the path is most of the time the bed of a small stream—small at the moment, though, I imagine, formidable enough in places when it becomes a roaring mountain torrent after heavy rain. The forest here was quite thin and at this season gay with many trees of *Bougainvillea peruviana*. As we descended, the mountain-sides became more and more rocky and barren until we found ourselves in an arid-looking cactus zone where

the ground was thick with enormous candelabra-like *Cereus* 12-15 ft. high, unhappily not in flower at the moment, although many *Echinocacti* squatting on the ground among the stones called attention to themselves by their blood-red blossoms. Among the almost purely xerophytic vegetation of the locality a few small *Bombax*-trees, *Pitcairnias*, and a tree with thorns and very sweetly perfumed yellow flowers, rather like *Parkinsonia aculeata*, were also common, and I also collected a white *Passiflora*. When we had almost reached the river-level, the air became heavy with the scent of orange-blossom, coming from the numerous orange-trees growing on the river's left bank. We stopped and bought for 2*d.* two dozen of the best oranges I have ever eaten, rather small, with a delicious subtle taste combining the flavour of an orange and lemon, and thin, greenish-yellow skins. The Amazon—or Marañon, to give the river its correct local name—is at this point not much more than 40 ft. wide, with lovely iron-green pools and a succession of sparkling rapids flowing between boulders torn from the steep sides of the valley—just a turbulent mountain torrent, giving no hint in its exuberant youth of its splendid destiny. And yet some 3,000 miles from where we stood (at no great distance as the crow flies from the Pacific coast) this mountain torrent, after draining a basin more than two-thirds the size of Europe, enters the Atlantic, discharging from its 160-mile mouth so vast a volume of water that the ocean is coloured for nearly 100 miles out to sea.

We rode for about half an hour upstream through the straggling, sordid little village of Balsas with its ramshackle bungalows, which is only about 3,000 ft.

above sea-level, so that from the top of the Calla-Calla Pass to the bed of the Marañon we had descended some 11,000 ft. in twenty-four hours. The inhabitants of Balsas stood at the entrances to their dwellings, staring at us apathetically. They made a painful impression of poverty, squalor, and disease, and, looking at their lustreless, bloodshot eyes and parchment-like skin, we understood the warning which we had been given at Moyobamba not to pass a night in Balsas if we wanted to avoid malarial infection. Rather less than a mile beyond the village we crossed to the Marañon's left bank by a fairly solid suspension bridge, which swayed from side to side beneath our mules' tread, and breakfasted at a wayside house before starting up a *cuesta*, which the muleteers told us would take from 10 a.m. until 5 p.m., seven hours' hard going, to reach the summit.

On the mountain slopes of the Marañon's left bank several trees of *Jacaranda acutifolia* (Bignoniaceae), covered with tubular hyacinth-blue flowers, were a joyous note of colour in rather barren surroundings, and I was able to press what should be a satisfactory specimen.¹

The sight of this lovely tree brought back many happy memories, for its near relative from Brazil, *Jacaranda mimosaeifolia* which reached the south of Spain by way of Madeira, whence seeds were brought some sixty years ago by an Englishwoman with a love of flowers, was one of the late spring glories of my Spanish garden.

We plodded and rode and rode and plodded up the

¹ Although I noticed no scent when I gathered the flowers, the leaves must contain a very powerful aromatic oil, for nine months later the dried specimen still had a strong and delightful perfume like attar of roses.

steep and stony *cuesta* under a blazing sun, and, after toiling upwards for some two hours, we were rewarded by a splendid view of the mountains we had descended yesterday afternoon and this morning, being able to follow with the aid of glasses almost the whole course of our descent. It was only then that we were able to see that, long and steep as those mountains then seemed, they were really only the foothills of the giants behind them.

In the afternoon, after a short drop down to Limon, which is just a group of farm-buildings in a hollow, surrounded by fields of sugar-cane, we started the last and most severe pull-up of all to reach the plateau above Celendin. It seemed as though the trail must lead up the valley to our left over a rather obvious col, but I was wrong in my supposition, though, when the muleteer pointed up the mountain straight ahead and remarked laconically, "There lies our way," we both thought that he was mistaken or that we had misunderstood him, for it looked as if no animal except, perhaps, an ibex or chamois—certainly not a heavily-laden mule—could possibly toil up that perpendicular-looking mountain. About a third of the way up the ascent an army of road-makers was busily engaged with dynamite and picks and shovels blasting rocks and building along the side of the mountain a road which at present comes from nowhere and leads nowhere, though ultimately destined, when and if the intervening stages are completed, to link up and become a part of the Chachapoyas-Cajamarca highway. Following each explosion, great rocks and boulders came rolling down the mountain-side; but, as we were just out of the line of fire, they caused us no

DIARY OF THE EXPEDITION

concern. About 5 p.m., after endless zigzags over rocks and stones, stopping every few minutes to rest the panting mules, we stood at last upon the crown of our endeavour and were rewarded by another of those glorious mountain panoramas which will remain a memory for life, although even here vision of the snow-clad range was still denied us. The vast chain of the Andes, which goes in unbroken continuity for a distance of over four thousand miles down the continent's Pacific coast, begins in Colombia, and running through Ecuador, Peru, and Chile, ends in the Antarctic Ocean at the Straits of Magellan. The great volcanic region of Ecuador and the Cordillera Blanca of southern Peru and Bolivia are the climaxes of this stupendous mountain chain, which in places expands to a width of 500 miles and is literally the backbone of a continent. Standing on the very summit of the valley of the Marañon, it was thrilling to recall that, whereas only forty-six rather insignificant Peruvian rivers of short trajectory empty into the Pacific, all the other waters of this vast country, with the exception of the lake-basin of Titicaca, which has no outlet, ultimately find their way to and mingle with the waters of that mountain torrent which we had crossed at Balsas that morning.

The sun was already low in the west and the knowledge that a long, rough descent down to Celendin was still before us told us not to delay. Reluctantly we mounted our mules and pressed forward again. A short distance below the crest of the ridge we had our first view of Celendin, covering a considerable area and looking from above, with its long streets,

open *plazas*, churches, and buildings, like a promised land. Michael had had symptoms of dysentery all day and was very weary, although cheerful and uncomplaining as usual, and I, in spite of having ridden most of the way from Limon up to the plateau, was conscious—after a sketchy night followed by a fourteen hours' hard day—of the limitations of middle age. Distance lent, if not exactly enchantment to Celendin, at least an almost metropolitan splendour to our unaccustomed eyes. The descent ultimately brought us to a highway a short half-mile outside the town (the first one leading anywhere along which we had walked or ridden for nearly two months), and as the tired mules stumbled along, we discussed optimistically the exciting prospect of a decent meal and even the possibility of a glass with 'beaded bubbles winking at the brim' to cheer us at the end of the day. We should have known better by this time. As we trailed wearily into Celendin, disillusion was not long in coming: instead of the simple inn with a clean, hard bed and the homely fare which we had foolishly anticipated, we found ourselves in just another squalid little Cordillera town with a hostel containing the usual almost bare, ill-swept rooms and a filthy courtyard, in which the 'sanitary' arrangements were more revolting than anything we had yet seen. As for the town's only so-called restaurant, where two cretinous-looking half-Indian boys bawled out the guests' orders, with its filthy kitchen, disgusting cooking, and swarms of flies, it was obvious that only good luck or immunity would save its patrons from amoebic dysentery. We loathed the place, and decided, while supping off eight boiled eggs, as probably the least

perilous fare we could eat there, to make arrangements to-morrow to leave for Cajamarca at the earliest opportunity.

Saturday, August 27th

A very civil and helpful Peruvian officer, a native of Celendin, whom we met on our arrival last night and made friends with, took us to see the sub-Prefect, who obligingly telephoned for us and arranged for a car to come from Cajamarca to-night to take us there to-morrow, an eight hours' run there and back, for the incredibly small sum of £2. Thank Heaven! another twenty-four hours and we shall see the last of Celendin.

Our good Stanley, who is still walking rather lame, left during the morning on his return journey with the muleteers, who, after the manner of their kind, tried to blackmail us into paying them 20 soles (roughly £1) to allow him to ride one of the mules. I refused their demands with firmness and profanity, and gave Stanley 4 soles, with which to bribe them, recommending him to tell them it would be that or nothing, with the knowledge that he was quite capable of dealing with their demands.

Before his departure, we gave Stanley some clothes and odds and ends he wanted (we had already left tinned food and supplies at Leimebamba for him and Adolfo on their return journey) and told him to sell all our cooking utensils, &c., which we shall now no longer need. We were very sorry to see the last of him, for he is a really charming character, kind and good-tempered, most reliable and an adequate cook in very difficult circumstances, and incidentally far

more intelligent and better informed than any man of his standing whom we had come across on our journey. I was sorry both for him and the mules not being given a longer rest at Celendin; but the muleteers were determined to spend that night at Limon, attracted, I suspect, by the prospect of getting drunk on cheap, locally-produced sugar-cane spirit.

There is nothing to do and nothing to see at Celendin except to watch the inhabitants weaving Panama hats, so, as the mountain-sides after the long drought were devoid of botanical interest, I spent a peaceful afternoon writing up my diary, which has been very sketchily kept during the past four or five days, labelling the specimens I had collected between Chachapoyas and here, and changing drying paper.

In the evening we had drinks with our officer friend, who told us an amusing story of a local worthy of some standing, who was given a present of some rolls of wall-paper. Unfortunately each roll was 2 ft. too long for the room for which they were destined, so, as he considered the paper too handsome to be cut, he had the roof of his room raised by 2 ft. to make it fit the paper!

Supper at our filthy little restaurant was an even more revolting meal than last night, as the atmosphere was heavy with the reek of foul tobacco, which a number of lorry drivers, who had arrived during the evening and had supped there, were smoking, and the oil-cloth on the tables was spattered with soup and beer from their repast and littered with broken bread. Most of the food had given out, so we again ordered eight boiled eggs, but found that the kitchen could only produce six. What a place!



INDIAN WOMAN WEAVING, VALLEY OF THE UTCUBAMBA
RIVER



WOMAN HAND-SPINNING, VILLAGE OF MOLINOPAMPA



INDIAN WOMEN IN THE *PLAZA*, CHACHAPOYAS



PLAITING PANAMA HATS, CELENDIN

Sunday, August 28th

We rose early, packed our travel-stained belongings and paid the hotel bill. There was some satisfaction in finding that the bill was in relation to the accommodation provided, a total of about 5s. for three rooms for the two nights we have spent here. Celendin is the only place we have stayed at since leaving Lima nearly three months ago of which we have no pleasant memory and hope never to see again, although quite possibly a future date may bring us here once more, for, if ever we were in this part of Peru in years to come nothing but ill-health or the handicap of advancing years would prevent us from trying to see once more the Pass of the Great Silence and that wonderful descent to the valley of the Marañon.

Before leaving we went for a stroll round the market-place, where Michael took some photographs. Nothing attractive was offered for sale—in fact, nothing in all Celendin gave evidence of the smallest taste or humblest artistic inspiration, except some fine Panama hats for which the little town is famous, and some good hand-woven *ponchos* which, in their strength, simplicity, and perfect suitability to the purpose for which they were designed, were in the best tradition of unspoilt peasant craft. An importunate hag pressed upon us some crudely carved boxes with the recommendation, after asking about four times their value: ‘Very cheap! Take something away with you from Celendin,’ and seemed highly amused when I replied laconically: ‘We are—fleas.’

We left by car—the chauffeur actually arrived at our

hostel up to time—soon after 9 a.m. We had obtained a permit to go against the traffic, for we preferred to take that risk, rather than spend another night in the filthy little town. As we bumped along over the cobbles of the main street, we passed our kind soldier friend, our solitary oasis here, marching at the head of some of his recruits. As we slowed down, he waved to us with his cheery smile and shouted, '*Buen viaje.*' It is pleasant to feel that even at Celendin, if Fate ever brought us back here, there is one human being whom we should be pleased to meet again. Peruvians of Spanish descent nearly always have excellent manners and in our personal contacts we have found them most friendly and anxious to help to smooth the path of the traveller.

The road was narrow with a bad surface and only at rare intervals was there a place where two cars could attempt to pass with safety. As we followed its devious course mile after mile over sun-baked shoulders of barren mountains without a sign of even the humblest dwelling, we understood that here, where even Indians cannot scratch a living from the rocks, the finest roads in the world could not bring prosperity to vast tracts of country, over which ages of erosion must pass before they become fit for human habitation.

Here, near the highest point of the road, for the first time since leaving the Cerro de Pasco region, we saw a small troop of llamas, those camels of the Cordilleras, with their supercilious noses and twitching ears, standing staring at the car with large, restless eyes. Like the chinchilla, they are creatures of high altitudes, for their natural habitation is above 7,000 ft.; below that elevation they are apt to develop a kind of mange and to

decline in health and vitality. Their padded feet with their claw-like hooves are particularly well adapted for walking over rough and stony places. They move at about four miles an hour, walking with complete confidence, with dainty tread and heads held proudly erect, over trails where even a Cordillera-bred mule might hesitate, carrying packs 80-100 lb. in weight. Like the camel, they have perfectly definite ideas about how much they will carry. If they consider a burden excessive, no power on earth can persuade them to move. They just do a sit-down strike, staring with reproachful eyes at the man who has tried to 'put upon them' in every sense of the words and refuse to budge until packs have been rearranged to their liking. What the camel is to the Arab, the llama is to the Peruvian and Bolivian Indian. Their meat, which is dark in colour and has a flavour something between beef and venison, provides food, their hide makes sandals, belts, &c., their dried dung (*taquia*) furnishes the Indian with fuel, and their thick, coarse wool, which is shorn twice a year—about 5 lb. at each shearing—is spun by the women into yarn for weaving clothes and blankets. All the woollen materials found in ancient burial grounds were woven from llama fleeces, with the exception of the garments of the reigning families, which were made of soft, silky vicuña wool.

In a country where the known population can only be roughly estimated, it is difficult to make even an approximate guess at the number of llamas in Peru, but there are probably not less than 2,500,000 of these interesting creatures in the Cordilleras and certainly not more than 3,000,000 of them. An adult llama in good condition can be purchased for the equivalent of

105. to 125. As a *general utility* animal for high altitudes, the llama is without a rival, though, purely as a pack-animal, the mule with its capacity for travelling long distances and carrying heavy burdens is superior. Llamas move slowly, grazing as they go, and twelve to fourteen miles is the maximum distance they will travel during a day.

When we came to an open valley before the descent to Cajamarca we found that the road was up in several places and impossible for motor—or, for that matter, any other—traffic, so our chauffeur, with great composure, gave his wheel a vigorous twist, bumped off the highway and started across country. Apparently it was as familiar an experience to him as it was novel to us, for he appeared slightly contemptuous of the doubts we expressed about the proceeding, and after a highly erratic and bone-shaking twenty minutes, brought us back to the road without mishap. Luckily the ground is now baked as hard as a brick after an exceptionally, so we are told, prolonged drought, which makes the countryside look so familiar to me that I feel as if I were back in Andalusia at the end of the summer.

We arrived at Cajamarca of historic memories about 1.30 p.m. and put up at the Hotel Los Andes, which occupies the upper story of a long, low house. Here we found ourselves once more in a world of beds, chests of drawers, glass window-panes, newspapers, napkins and electric-bells, not to mention a room without a window with a cold douche described as a bath-room. On our way through the town gaudy posters invited us to see *The Prisoner of Zenda* at a local cinema theatre, proclaiming all too clearly that we

were once again under the influence of soul-destroying standardization.

Monday, August 29th

Cajamarca, the capital of the department of that name, lies in a great bowl-like valley, watered by the insignificant Corimayo River and surrounded on all sides by many acres of cultivation. With its domes, churches, and tiled roofs, it has very much, from the heights above it, the familiar appearance of many Spanish towns. Tall imported eucalyptus trees, as at Tarma, are a feature of the landscape, and, far from having an exotic appearance, their grey-green foliage and silvery grey bark, very much the same colouring as that characteristic Peruvian tree, *Buddleia incana*, make them look remarkably native to their surroundings. In spite of a large cathedral with a severe, unfinished pre-Baroque façade and some fine *patios* and houses with large doors surmounted by armorial bearings recalling past colonial grandeurs, the dominant note of the town is that of a strongly Indian foundation overlaid by a much cracked Spanish veneer. There are some fair shops in the main street, including a wine-store where we bought a corked bottle of a good brand of champagne and two bottles of really excellent Rhein wine at, considering the cost of transport, most reasonable prices; but the more important thoroughfares quickly peter out in squalid little alleys, where melancholy, small-boned men in *ponchos* and large hats stand about watching black-eyed, frowsy slatterns in voluminous brightly coloured skirts and shawls suckling infants or delousing the

heads of their numerous offspring. Looking at the descendants of the men conquered by Pizarro and his handful of stout-hearted followers, and seeing the dirt and squalor in which they live, I often wonder if the highly coloured pictures of the Inca Empire, painted by writers of facile and romantic pens, in which the Indians of pre-conquest days move as though in an eternal round of colourful pageantry, are not even further removed from truth than a description of a State ball would be typical of an evening at the Hammersmith Palais de Danse.

It may be that the Peruvian Indian, like many other primitive races before him, can only assimilate the worst of Western civilization and so is degraded by contact with it. That the great majority of the country's population are Indians or of mixed blood is Peru's great problem, for the ruling class of old Spanish descent, which is hardly to be met outside Lima or Arequipa, is too small in numbers and without the resources necessary to develop a country presenting the enormous obstacles to material progress, which are obvious to the most superficial traveller in Peru. Indeed, it is remarkable what has been accomplished in the face of great difficulties during the past twenty-five years. Probably more than any part of the world, South America in general, and Peru, Colombia, Bolivia, and Venezuela in particular, need foreign initiative and foreign capital to help them to develop their great natural resources. Unhappily the South-American republics, no less than the nations of Europe, have in greater or lesser degree succumbed to that suicidal Chauvinism which, by applying the policy of an economic and political tourniquet, deprives the

foreigner with money to invest of a sense of business security and thereby prevents the vital circulation of capital.

The interior of Cajamarca's Cathedral makes a pleasantly austere and restful impression compared with the flamboyant extravagances of most of Lima's Baroque churches, though its distinction is of a rather negative kind; but after many of the churches we have seen during the past three months, in which pictures and images of the worst Spanish tradition place the whole accent on the physical aspect of suffering, the building and works of art in it seem the apotheosis of dignity and restraint.

Cajamarca will always have its niche in history as the place where the drama of the Spanish conquest of the Inca Empire reached its culminating point. The story has been told by every writer who has travelled in and written about Peru, even by many, including the great historian Prescott, who were never in that country. To-day—August 29th—our first day in Cajamarca, is the anniversary of the murder by Pizarro of Atahualpa in 1533. Whatever the Inca may or may not have been, murder it was, and not the least sinister detail of a dreadful story was the favour of the commutation of death by burning to death by strangulation after the forcible 'conversion' at the stake, erected in that same *plaza* where the Cathedral now stands, of the unhappy captive, who was baptized John by the Dominican Valverde in honour of St. John the Baptist. Revolting as was the execution, perhaps, as a distinguished Catholic writer has suggested, the words of the poet Quintana are the fairest comment on the murder of the Inca and on his executioners:

A FORGOTTEN RIVER

*Su atroz codicia, su inclemente sana
Crimen fueron del tiempo y no de España.¹*

About 10.30, just as I had fallen asleep, the highly incompetent half-caste who owns our hotel started with some of his cronies a noisy fusillade of fireworks in the passage outside our rooms, filling the place with smoke and making an infernal noise and smell, the pretext for these exuberances being that it was the vigil of the feast of Santa Rosa. In addition to the glory of the Saint, the proceedings were apparently in honour of either his wife or of some other Rosa staying in the hotel. As most of the party were more than half drunk, I wondered if it were unorthodox to think that Santa Rosa would have been better served if her vigil had been honoured in the breach rather than by the observance.

Tuesday, August 30th

In the morning we took a car and drove about four miles out from Cajamarca to visit the Inca baths, a bathing establishment, where an abundant water supply comes from naturally hot sulphur springs. The place is clean and well kept, and we were able once more to revel in the luxury of a real bath, sitting up to our necks in water as hot as we could bear it in large tanks, with steps leading down into them in private rooms. Only the sacred Inca could bathe here and we were shown what is said to be the site of the royal bath, but all traces of the construction itself have been swept

¹ Their ghastly greed, their passions so insane
Were crimes of all the age and not of Spain.

away. The surroundings of the baths are unattractive, with a jumble of small booths to supply the needs of very dirty Indians squatting or shambling about the place.

In the afternoon we went to visit the room where Atahualpa was kept prisoner when he made terms with Pizarro and the price of his ransom was fixed at this room filled with gold to the height of the top of the Inca's raised arm. The room, which is now used as a store-room, is on the property of the nuns of the Order of St. Vincent and St. Paul and is an outbuilding of their convent. Its measurements are about 33 ft. long by 20 ft. wide and not quite 11 ft. high. It has been estimated that the value of the gold of Atahualpa's ransom to-day would have been somewhere between six and seven million sterling. In addition to this vast treasure, the contract provided for the filling of another room twice as large as this one with silver. The walls of the room are 3-4 ft. thick, with small characteristic niches, and are constructed of finely chiselled stones. It is a simple, massive, straightforward building, though as a room it is too low in proportion to its breadth and height for beauty, but the workmanship is remarkable, considering the date of its construction and the primitive mentality of the race that built it. I do not believe, as one writer who recently described this room wrote in a moment of uncritical extravagance, that those Indian builders 'scorned decoration', but rather that they were incapable of the great flights of imagination which inspired the master builders of Europe, who thought in terms of aspiring Gothic traceries and splendour of Renaissance invention. Such comparisons should really not be made, but they

are useful at times for helping to preserve a sense of proportion in an age when mere size has many votaries and certain writers are addicted to gushing over the barbarous, while a section of the public blindly follows any fashionable lead from fear that they may not be backing the artistic winner of the moment.

In the evening it turned almost cold, and steady rain made us glad that we were not camping out in the Cordilleras. Michael still has symptoms of dysentery, which is worrying, and I felt rather weary and out of sorts, for the first time since leaving Lima, so we were both glad to turn in early, in spite of a wail from the owner of our hostel that we were missing the chance of a lifetime by failing to patronize *The Prisoner of Zenda*.

Wednesday, August 31st

We spent a quiet morning at our caravanseraï trying to finish some long-neglected correspondence in readiness to post at Lima and in sorting out and packing the things we want to take with us by car to-morrow to Trujillo from those we intend sending by transport lorry direct to Lima.

At noon a couple of old screws we had hired were brought round, and we started off with packets of sandwiches to ride out to see the ruins of Cumbemayo. Just outside the town the path led straight up a very steep, rocky *cuesta*, of the type with which we are now so familiar, bringing us in less than twenty minutes to a place on the mountain-side known as the Inca's Seat, which is a large boulder cut into the shape of a rude chair, where, sitting with legs more or less

dangling in space, a fine bird's-eye view of Cajamarca and its fertile valley can be enjoyed. I don't know if an Inca ever really sat on the stone, but if so I hope he came well provided with cushions, for the seat is extremely uncomfortable and the stone must have been rather chilly for the royal backside.

The horses were infernally bad movers, probably because they were used to being ridden by riders wearing spurs with rowels an inch long—in fact, our progress was so slow and we were both so bored with legging the unwilling animals along that we contented ourselves with a distant view of Cumbemayo and got back to Cajamarca about 5 p.m. The mountain-sides were very parched and barren and nothing went into the collecting-tin except a nice carmine pink *Barnadesia*, a species I had not yet seen, a *Gardoquia*, and a scarlet-flowered *Aphelandra*.

On arriving back, I discovered that a local official, who had assured me that his house and everything he had in the world was ours for the asking and had volunteered to make all the arrangements for a car to take us to Trujillo to-morrow, had done nothing at all about it. I was not greatly surprised, for during our brief interview I had had an impression of a personality of promises rather than of performance, but it was impossible to feel resentment when promises were so gracefully made, and incidentally we had plenty of time for making our own arrangements. After an hour's pursuit of the owner of the *Agencia* which controls transport here, my quest taking me from garage to café, from café to private residence, from private residence to another café and thence back to the garage, I at last ran the elusive quarry to ground in

the street outside our hotel. Terms were discussed in the traditional Spanish manner, the owner of the garage beginning by an opening bid of twice what he was prepared to take and I by offering half what I expected to pay. After a classic wrangle, in the course of which he stated with emphasis that he was 'outraged' by my incredible offer and I declared with equal conviction that the price he demanded was a 'brigandage', terms were agreed upon, and we parted after a friendly drink on the understanding that a Buick would be at the hotel to-morrow morning to take us and our luggage from here to Trujillo for an inclusive price of the equivalent of £4.

Thursday, September 1st

We were amazed when the Buick arrived only fifteen minutes late, for, in spite of all our admonitions and exhortations, experience had taught us by this time to feel that staff work had been satisfactory if we started only an hour after specified time.

The chauffeur brought a ten- or twelve-year-old imp with him, which rather bored us, for the Buick was already overcrowded; but he assured us that the urchin's presence was necessary and that without him we should probably never arrive at Trujillo.

We started off in perfect weather with the dust laid by rain during the night, and after a steep but not long pull up arrived at the highest point we reached during the day. This was followed by a long run down, succeeded by another pull up, which lasted for two and a half hours, over the most dangerous road with in places the worst surface on which I have ever

been driven. During this ascent we learnt how vital the chauffeur's imp was to our safety. Seated on the step of the Buick, he kept jumping down at those nightmare hairpin bends on the edge of precipices and hastily placed large stones under the wheel of our car whenever it had to be backed to the edge of an abyss to allow it to make a turn. After reaching the highest point of this ascent, we ran down a mountain-side which from above looked as if no road could possibly be engineered along its almost perpendicular face. Looking up and down when we were half-way to the bottom of the descent, we could sometimes see as many as five or six sharp bends of the road above and below us.

We stopped now and then to collect specimens, although flowers are not numerous at this season. A white Gentian, a very similar species to one I had collected in the Rimac Valley above Rio Blanco (I think it was *Gentiana multicaulis*), was extremely common, and another belonging to the same group as *Gentiana umbellata*, which is so common in moist places near Huacapistana, with pale magenta-coloured flowers, was also fairly frequent in some localities. An *Apheandra* (I think *A. jacobinioides*) with bright, salmon-red flowers was very frequent, as was a *Browallia*¹ covered with its attractive periwinkle-blue flowers. I also collected a specimen of a leguminous shrub with thorns and small yellow flowers, which I saw here for the first time, and a shrubby *Bignonia* with rosy lilac flowers, one of the most beautiful shrubs I have seen on the Pacific side of the Andes.

¹ According to Kew, the species agrees with *B. peduncularis*, except for the short pedicels.

We did not stop either at Chilete or Magdalena, and, although we should have been grateful by the time we reached San Juan for almost any kind of meal, there was apparently no place there which could offer the weary traveller even the simplest form of refreshment.

At about 3 p.m. we reached a village, where, after some search, we found a place calling itself a restaurant, where we were able to get some fried eggs, bad bread, and worse coffee, which, however, kept us going all right until, after a long, straight, dusty road through miles of sugar-cane plantations, we reached the famous ruins of the pre-Inca city of Chan-Chan, and half an hour later, tired and thirsty and half choked with dust, we arrived at the departmental capital of Trujillo.

Friday, September 2nd

We both rather enjoyed sleeping between cool sheets again, sitting on chairs with some relation to the human form, and having a warm bath on rising as a matter of course. Trujillo, which has a population of some 30,000, nearly one-third of whom, we are told, are children of school age, is on the Moche River, 200 ft. above sea level. The town was founded by Francisco Pizarro and named by him after his birth-place: it is the capital of the department of La Libertad, so-called because Trujillo was the first city in the struggle against Spain to proclaim its independence. Some 300 miles from Lima, it is a town of increasing importance, owing to the extension of copper-mining in the district and to the big sugar-cane plantations in

its vicinity, which represent nearly one-half of the total amount of sugar grown in Peru. In the Chicama Valley, which was reclaimed and brought back into cultivation by irrigation some sixty years ago, sugarcane reaches maturity in eighteen to twenty months after being planted and the ground is so fertile that it gives a yield of 5 to 6 tons to the acre of a very fine quality of sugar. At the moment the sugar industry is not exactly booming and much of the crop is being converted into alcohol.

Trujillo itself, with long, straight streets, many churches, shops of some pretension, and large public buildings, is clean and well-kept and makes an impression, if not of wealth, at least of comfort and business activity. Architecturally it is entirely without interest—in fact, its chief public monument, an enormous statue in the best icing-sugar tradition, standing in the middle of the big *plaza*, evolved, I should say, under the influence either of late Buzzard or early Gunter, might almost serve as an example of every error of taste of which a sculptor could be guilty, although it is probably no worse than some of the fantasies in stone which deface London. However, it is large and important and looks solid enough to defy even an earthquake to do its worst. Earthquakes have played great havoc here, especially the major disaster of February 14th, 1619, when churches and buildings of the most solid construction collapsed, killing and burying in their ruins hundreds of the town's inhabitants. Although no great damage was done to Lima itself by this earthquake, a large district of the coastal area was affected. In some places the contour of the ground was completely changed. Underground rivers

suddenly burst to the light, others disappeared beneath the earth, while those which usually ran clear turned inky black. The sea, with no wind to agitate its surface, raged furiously from a terrific commotion in the ocean-bed and a tidal wave swept the coast, leaving, after it receded, thousands of fishes stranded on the shore. Every day for a fortnight afterwards the district was shattered almost every hour by severe shocks, which completed the work of destruction caused by the first earthquake.

We lunched with a friend of some of our Lima friends at Trujillo's most famous restaurant, Los Tumbos, known far and wide for its most excellent cooking. The tables here are set out in a small garden among well-cared-for flowering shrubs and aviaries of local birds, all looking tame and happy. I have never seen the sweetly scented *Brunfelsia* flowering with greater profusion than in this little garden, where its patrons can watch while they lunch exquisite little chestnut-coloured humming-birds sipping nectar from Hibiscus flowers.

After weeks of Montaña and Cordillera fare, we enjoyed a perfectly cooked *chupe de camarones*, a classical Peruvian dish, of which prawns are the principal ingredient. The proprietor most obligingly gave us the recipe for this dish, and our appreciation of the little restaurant's most appetizing cooking also produced a recipe for another national dish, *serviche*. The former *plat* is a most acceptable winter luncheon dish; the latter only to be recommended for a hot summer's day. Both dishes are worth trying by experimentally minded housewives. Unfortunately, the chef, being an artist, cooked according to the inspiration of the

moment and so was quite incapable of writing down the quantities he used of the various ingredients; but then your born cook will successfully play impromptu variations on a bare theme, where an inferior performer cannot even struggle correctly through a carefully written composition.

Chupe de Camarones

Boil some potatoes, either the white or the yellow variety. At the same time boil some prawns and fry some *corvina*.¹ When both are cooked, put into a saucepan some butter, salt, freshly ground pepper, a small quantity of good wine vinegar, marjoram, and a little saffron. Cut the boiled potatoes into halves and put them into the saucepan with the prawns and some fresh cheese; break in some eggs so that they cook in the boiling mixture of the prawns and potatoes. When ready, stir in the pieces of fried *corvina* and serve very hot.

This excellent dish has many possible variations. *Chupe de camarones* might be described as first cousin to a *bouillabaisse*.

Serviche

Skin, clean and wash the fish very thoroughly and cut it up into small pieces the size of the top joint of a thumb. Put into a saucepan enough juice of bitter oranges mixed with salt, a hint of garlic, and a little chopped onion to completely cover the fish. Leave it to soak for some hours until the fish has been

¹ The *corvina*, a kind of sea-bass which is caught in great quantities off the coast of Peru and Chile, has flesh which is in taste and consistence something between cod and salmon. Cod would probably be a very good substitute for *corvina* in these two dishes.

thoroughly cooked by the action of the bitter orange juice. Serve cold with small slices of parboiled sweet potatoes or, failing them, ordinary potatoes and sweet corn which has been cooked in butter and salt. *Corvina* is the best fish for this most characteristic Peruvian dish.

In the afternoon we hired a car and drove out to visit the ruins of Chan-Chan, the old capital of a people whose dominion, before the Inca Empire was, extended northwards as far as what is now the Ecuadorian frontier, possibly even to the left bank of the Guayas River, and southwards beyond Huacho.

These ancient ruins, built by a vanished race, are situated about five miles north-west of Trujillo and stretch almost from the brink of the ocean to where the last foothills of the Andes crumble and disappear in the coastal plain, covering a very large area of ten to twelve miles in length and four to six miles in breadth. An enormous number of interesting objects have been discovered by excavators here, especially textiles and fine examples of the potter's art.

The ruins themselves, which have been severely damaged by earthquakes and, especially, about fifteen years ago, by that almost unknown phenomenon on the Peruvian coast a heavy downpour of rain, when walls which had stood for centuries melted and collapsed in a few hours, are of great archaeological interest; but, apart from a few mud arabesques and geometrical patterns, the ruins could only be disappointing to the traveller expecting to find here another Timgad. We were shown a site and an outline called the 'palace' of the Gran Chimú, who was,

it is said, forced to acknowledge the suzerainty of the Inca Pachacutec; but, somehow, looking at the crumbling remains of this civilization of mud and sand, I could not help wondering if the submission of the Gran Chimú amounted to much more than a tribal quarrel on a large scale.

Certain writers have stated from time to time that these Indian races of the coast had developed an 'advanced civilization'. Some instinct for building and much skill in irrigation they certainly had; great art, too, in the weaving of textiles and fashioning of pottery; but it is difficult to think of races as very 'advanced' which built in mud, were completely ignorant of the wheel, and had not yet staggered far enough up the slopes of civilization to reach that difficult country where an alphabet begins. As we stood there in the dusk among the last crumbling vestiges of streets and dwellings, surrounded by shapeless mounds and vague outlines of a vanished past, those words of solemn import, 'Dust to dust', kept ringing in our hearts like a passing bell, for here was the end of much endeavour, the graveyard of many hopes and ambitions, the darkness at the end of a long day upon which no dawn would break. Not even the lion and the lizard haunt this ruined city—only two wanderers from the Old World, animate dust that had crossed the ocean, standing for a brief hour upon the inanimate dust of a vanished people, and a dismal black vulture brooding like a spirit of corruption on the site of the ruined palace of the Gran Chimú.

On our way back to Trujillo, we stopped on the outskirts of the town to visit the house of a Peruvian of

English ancestry, who showed us with much courtesy a house and temple of post-Chan-Chan construction which had been excavated on his property. The ruins, the walls of which are very well preserved, are covered with interesting and decorative geometrical patterns in relief and must be of great interest to archaeologists. I shall always remember the owner's house for the magnificent *Thunbergia*—I think *T. grandiflora*—which almost completely hid the façade. Hitherto I had only seen this beautiful plant flowering rather shyly in sheltered corners in gardens on the French Riviera. Here its periwinkle-blue blossoms covered nearly the whole of the front of a three-storied house with such luxuriance that the leaves were almost hidden.

Saturday, September 3rd

We both passed a disturbed and uncomfortable night, Michael still suffering from dysentery and I feeling thoroughly upset with symptoms of acute indigestion. Just before starting from Casma, our only stopping-place, we hoped, between Trujillo and Lima, I went to a chemist's shop in search of a remedy; but the brew only put the coping-stone on my distemper by causing me to be violently sick in the street, an undignified proceeding and a bad start for a long, tiring day. We might have attributed our condition to a sudden change of diet after the very simple fare upon which we had been living for nearly three months had not Michael's symptoms begun three or four days before our arrival at Trujillo.

We packed ourselves and our belongings into the

car we had hired to take us to Lima and started off soon after 8 a.m., both feeling rather miserable, though thankful that, whatever was amiss¹ with us, journey's end was now in sight. Our way led through the scabby little sea-port town of Salaverry, which is connected with Trujillo by a small local railway. It is a place of some local importance for the amount of sugar shipped there, but, as the roadstead is open, ships have to discharge and load from lighters. Soon afterwards the highway came to an end and we found ourselves bumping over the trackless, uninhabited—and, failing irrigation, uninhabitable—coastal desert, where the only indications of direction among the hills and dunes and wastes of sand are stones placed to outline a vague track and deep ruts left by the wheels of passing lorries. I have motored over some bad roads in the Spain of pre-War days and travelled by caterpillar car in Tunisia, but both were like being on tarmac compared with this Peruvian coastal desert. The frightful shaking and jolting, which made us wonder how the springs and engine of any car could possibly survive half an hour of it, gave me an attack of hiccoughs which lasted for sixteen hours without intermission. It was a nightmare day. Now and then, after ploughing through many miles of barren, waterless waste, a small *hacienda* or a collection of ephemeral shacks appeared beside a stream, where a dribble of water made it possible for the owners to eke out a precarious and painful existence with the help of a few lean animals, standing despondently like creatures in a dream-world, nibbling the thorny scrub and sparse

¹ On arriving back at Lima we were thoroughly overhauled and discovered that both of us were suffering from that troublesome and very common infection in Peru, amoebic dysentery.

grey-green vegetation, which kept them from actual starvation. Here was none of the fierce sparkle of the Sahara, although, in its drab, subdued way, the country was extremely like parts of the desert of Northern Africa—but Africa without the oases of stately palm-trees, the processions of plodding camels, or the picturesque camps of hawk-faced, white-robed Bedouins with their flocks and colourful women. And yet the Peruvian coastal desert has a certain quality positive and strong enough, like certain characters, to repel though not to bore, and I realize that had I not been feeling so ill I might have seen this stretch of country with a more appreciative and less jaundiced eye. It is curious to reflect that were the course of the Humboldt Current to change and the coasts of Peru and Chile to have a constant rainfall they would soon become as richly clad with vegetation as the coasts of Colombia and Ecuador. But there would be a serious reverse to the medal of the development of agricultural wealth, for it is only the complete absence of rainfall that makes possible the accumulation unimpaired of guano deposits, not to mention the export of nitrate.

During the morning we passed through Viru, but only halted there long enough for Michael and the chauffeur to have drinks, and what we saw of the drab little town gave us no desire to prolong our stay there. Viru is situated on a small coastal river of the same name. So far as I know, its only claim to distinction is having been erroneously stated by some writers to be the place from which the name of the Republic was derived, owing to its similarity with Pirú, as Peru was formerly written. Whatever else may be doubtful, this derivation is certainly a false one, for the coast of

Trujillo was only discovered in 1527, eighteen years after the name Pirú was in use by Balboa and his followers to describe the country south of Panama. The origin of the name Peru has been the subject of much discussion and controversy, though there is general agreement that the name was never used by the Indian inhabitants of any large tract of country, and that its employment as a territorial designation only dates from the arrival of the Spaniards on the Pacific coast, who apparently applied it indiscriminately to the lands they conquered south of Panama. At first the name was certainly Pirú, for so it is spelled nine times in the twenty-six paragraphs of the royal grant which conferred on Francisco Pizarro the right to conquer and colonize new territory. The name may be derived from the River Biru, 160 miles south of Panama, or it may even have been the name of a local chief of some importance. Even the original name, according to Raimondi, from which Pirú and subsequently Peru is derived, is in doubt and may have been Beru, Pelu, or Biru; but that the name was not derived from the town of Viru is certain.

When Raimondi visited Viru in May, 1868, the district was just beginning to recover from a severe outbreak of yellow fever.¹ He made the interesting observation that negroes appeared there to be completely immune from the disease. The Indians of the district all contracted the fever and most of them died; the Chinese living there also went down with it and twelve of them died; mulattos were infected, but none of them died. From these observations, Raimondi

¹ As at Guayaquil, modern precautions have stamped out this disease on the Pacific side of the Peruvian Andes.

concluded that negroes there were not liable to infection and that half-castes (mixture of white and negro) had sufficient resistance to the germ to prevent the disease from being mortal.

We halted for half an hour at Chimbote, a small port some 200 miles north of Callao, where Michael and the chauffeur had a meal. By this time I was feeling so shattered and exhausted after five hours of uninterrupted hiccoughing, combined with the shaking and jolting of the car, that I only drank a cup of weak tea while wondering if I could hold out until the end of the day. The exhaustion and sensation of what I can only describe as a kind of physical disintegration of the nervous system was rather frightening, but we knew that Casma might produce a more or less capable doctor, so there was nothing for it but to press on and hope for the best.

That night at 7 p.m., when it was almost dark, covered with dust and dead beat, we lurched into Casma. Here, as not infrequently happens, a breath of unconscious humour came to leaven the situation and helped me to pull myself together. Two Peruvians seated in the bar of the Hotel Royal, whose interest was instantly awakened by my violent hiccoughing, were full of well-meant inquiries and advice, overwhelming us with suggestions and warnings. One of them ended up by saying: 'Something must be done—at once. An attack of this kind can last twenty days.' To which his friend scornfully replied: 'Twenty days: It couldn't last so long. The heart would give out. People often die of this in a day or two. I know it.'

Having made his point, the Optimist came down to practical politics and most obligingly went in

search of a doctor who lives in this hotel, but was out at the moment. About a quarter of an hour later the doctor appeared, told me to go to bed at once, proffered the superfluous advice not to eat anything, and gave me a white bismuth-like powder to be taken in milk every hour during the night.

Sunday, September 4th

At about 2 a.m., after some pain and discomfort, I was violently sick again, after which the hiccupping gradually diminished and allowed me four hours' sleep. The doctor came early to see me and insisted on my staying in bed until the afternoon, which I was quite ready to do, for I still felt rather exhausted and disinclined for even mild exertion. Incidentally, the Hotel Royal is surprisingly clean and comfortable, with an unexpected cultural outburst in the form of pink linen sheets on the beds.

About 2 p.m., after another four hours' undisturbed sleep, I felt more or less myself again, and, refreshed by the moral support of a shave and the physical support of a bowl of potato soup, I dressed and went for a stroll through the streets of Casma, which we had last seen at the beginning of May, when the Norwegian tramp in which we travelled out from Europe put into the port of Casma for a few hours. To-day the town looked very gay and cheerful with a number of people from the district in for shopping at the Chinese- and Japanese-owned stores and a noisy game of football in full swing.

Before turning in, we tried to impress upon the two

coloured boys who minister to the wants of guests at the Hotel Royal the necessity of calling us at 5 a.m. and having breakfast ready punctually at 5.30, in order that we may be ready to start at 6 a.m. on the last lap of all, with some prospect of arriving at Lima to-morrow night.

Monday, September 5th

While it was still dark I was roused by the sound of footsteps padding about outside my door. I had neglected to wind up my watch and did not know the time and, thinking that one of the coons had come to call me and was uncertain about the number of my room, I opened my door, to find in the passage a rather dressy youth carrying a Peruvian version of a bowler hat. In reply to my question about what he wanted, he answered quite simply and naturally that he had 'come to deliver the hat'. The following characteristic little dialogue then took place:

C. S. (*incredulously*): Come to deliver a hat!

YOUTH: Yes, sir.

C. S.: At *this* hour!

YOUTH: Why not? It has to be delivered some time. Is it for you?

C. S.: For me? I wouldn't be seen dead in the thing. What time is it?

YOUTH (*brightly and readily*): 3 a.m.

C. S. (*staggered*): 3 a.m.? It can't be.

YOUTH (*hedging a little*): Well, 4 a.m.

C. S. (*relentlessly*): 3 a.m. or 4 a.m.? There is a difference, you know.

YOUTH (*with disarming candour*): Actually, it is 4.30.

And it was! Presumably, like the southern Irish, he thought for some reason that I wished it to be 3 a.m. and gave me the answer which he imagined I wanted to hear. The next move was to call the boys who should have called me. Both were sleeping soundly and their only reaction to my remonstrances was to assure me with sleepy grins that there was plenty of time. After two or three visits to the kitchen to 'ginger up' the black goddess of the hearth, who was teasing a tortoise-shell cat with the composure of one for whom time simply does not exist, breakfast appeared only half an hour late, which enabled us to set out at 6.30 on the last lap of our three-months' Odyssey.

Another day of sand, rocks, and stones, with now and then patches of dusty, grey-green scrub, small cacti and Tillandsias with spiky foliage almost sitting on the surface of the soil, and, on every side, velvety-looking dunes, through which we ploughed a painfully laborious way, with their surfaces rippled by the wind like the sand by the ocean's edge. On our left the foothills of the Andes, covered in places with patches of bright green Lomas vegetation, propped up the higher mountains behind them, capriciously coloured in every shade of russet, lilac, grey, and sandstone red, while on our right the Pacific rose and fell with regular pulse like the breathing of an ocean asleep, veiled in a shroud of cold, damp fog. Here we were back once more in that strange Peruvian coastal desert, which during the winter months combines the unusual phenomenon of a barren, waterless Sahara-like country of rock and sand with a veiled sun and humid atmosphere. The Pacific slopes of the Andes are rainless from the shore to nearly a hundred miles inland and

would be absolutely barren were it not for the fog which forms over the cold Humboldt Current and is carried landwards on air currents, precipitating sufficient moisture to clothe the hillsides for a brief period with characteristic and evanescent plant-life. The Humboldt Current has an average breadth of about 150 miles along the coast of Peru and is noteworthy for its constant low temperature. It is the even coolness of the ocean here which is responsible for the enormous shoals of small fish, especially anchovies,¹ found in these waters, which in their turn are the explanation of the presence here of those vast flocks of sea-birds which are one of the most striking features of the Peruvian coast. No one who has once seen them can ever forget the enormous processions of guano birds, sometimes in masses, sometimes in single file, extending for miles in length, flying a few feet above the water, going to their feeding grounds or returning to roost on those islands where their accumulated droppings form one of the riches of Peru. Of the different species represented here, by far the most numerically important are the cormorants, the *guanay* (*Phalacrocorax bougainvillei*), with glossy green and blue-black necks and backs. Two gannets (*Sula nebouxi* and *Sula variegata*) and a brown, dingy-looking pelican (*Pelecanus thagus*) also inhabit the coast and islands in large numbers and contribute their quota to the guano deposits. The pelicans are amusing birds to watch. They are rather tame and stand about in solemn, portentous groups, and appear in flight to be lethargic, slow-moving birds. Actually, like the great

¹ Examinations of cormorants' crops have often revealed as many as forty to fifty anchovies in the crop of a single bird—the daily diet of millions of birds throughout the year.

bustard, the pelican's apparently leisured flight is most deceptive, for each forward-striking wing-beat is carrying them along with far greater velocity than other sea-birds of the Peruvian coast.

The track we followed—if the word can be used about a vague direction in a desert—was, if possible, even worse than yesterday, and, as we lurched along in the ruts left by motor lorries, wondering at each rise of the ground whether the straining engine would break down half-way up, we both felt doubtful about reaching Lima that night. During the morning we stuck fast going up a steep incline with a particularly loose surface, but luckily not far from a broken-down lorry which was stranded in the desert for the third day. The driver of the lorry, happily for us, had a spade with him and, assisted by one of his men, dug us out and, with the help of a couple of boards, got us started again. In return for his good offices, we gave him a lift as far as the little town of Huarmey, where he hoped to find a spare part for his lorry's engine. We stopped about 2 p.m. at one of the most desolate places I have ever seen, a shack standing absolutely alone in a barren waste of desert surrounded by pitiless hills, where a disillusioned-looking mulatress gave us a leathery omelette and some extremely bad coffee. The shack is near a district known as the *Infernillo*, where sometimes, when a fierce wind is blowing, cars and lorries are half buried by sandstorms and have to remain for days until they can be dug out; but when we passed through there was no wind, only the scorching sun, which by noon had dispersed the sea-fog, shining on a desolate waste of sand and stones, littered with the remains of dead

animals, human skulls, bleached bones, and dreadful rags and bits of crude pottery dug up from rifled graves. The coastal desert of Peru, which is one vast graveyard of vanished cities, races, and civilizations, has a Gehenna-like quality, more suggestive of the cruel, sinister atmosphere of Holman Hunt's picture, 'The Scapegoat', than anything I could have imagined before seeing it.

After exasperating delays at Paramonga, Barranca, Supe, and Huacho, where, in spite of our anxiety to spend as short a time as possible at these most unattractive little places, regulations demanded that, although only entering by one side of the town and leaving at once by the other, we should register our arrival and departure with the local authorities, we at last found ourselves on a wonderful piece of smooth tarmac outside Huacho. After so many hours of being shaken, jolted, and thrown about, with my inside still feeling tender and shattered from the experience of the day before yesterday, it seemed too good to be true to sit in a car running smoothly on a perfectly made road. Alas! it *was* too good to be true. After a few miles the road simply came to an end in another stretch of trackless desert with a surface as bad as anything we had been over since leaving Trujillo. The day seemed endless. Dusk came on apace and a thick, clammy fog came drifting in from the ocean and shrouded the desolate country in an impenetrable veil. A bridge over a stream, which we should have crossed, having broken down, we were forced to make a long detour. The driver mistook the way—not unnaturally in a district where there is no way—and for a time we had lost even a sense of direction. But

DIARY OF THE EXPEDITION

St. Christopher, patron saint of wayfarers, watched over us. Just as we were contemplating stopping and spending a night in the desert as the better alternative to driving over a cliff into the Pacific and were congratulating ourselves on having with us our *ponchos* and a thermos flask nearly full of hot black coffee, a distant light, where a patch of fog lifted, shone suddenly in the darkness. Laboriously we ploughed our way through the sand to it and found a large shack full of road-workers, who were able to guide us to a track, which ultimately brought us to the new Ancon-Lima coastal road. Even here, though the surface of the road was like a newly-made by-pass compared with what we had been over during the past two days, it was a rather hair-raising experience to drive along it at night with poor head-lights, large recklessly driven lorries coming against us, and a road, in the places where it was possible for two vehicles to pass, with often not more than a foot to spare between us and a sheer drop over the cliff into the sea. However, St. Christopher must have had us under his special protection, for at last, after a sixteen hours' day, we found ourselves back in the familiar well-lit streets and open squares of Lima and as ten o'clock was striking we arrived at the door of the Hotel Bolivar, whence we had set out nearly three months before for the headwaters of the Forgotten River.

THE END

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